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CASHLESS SOCIETY: CONSUMER- PERCEIVED VALUE PROPOSITIONS OF MOBILE PAYMENT

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ABSTRACT

Zheng Zhao: Cashless Society: Consumer-Perceived Value Proposition of Mobile Payment
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Digitalisation is no novel concept to the society nowadays as its trails can be easily discovered in the mundane lives of human. Payment methods and currency, without exceptions, have gradually become digitalized as well. Banking services, card payment and e-currency are pushing the society developing towards cashless. Coincidentally, mobile devices, being a nearly necessary item in the lives of human, has entered the field as well, and many believe that mobile payment could be the most influential stimulus of a cashless society. However, the acceptance intentions and behaviours are different across countries. Therefore, this study deploys a cross-cultural consumer behaviour perspective to analyse the consumer-perceived value regarding mobile payment.

The purpose of this thesis is to identify and analyse the potential antecedents as well as their correlation effects on consumer value perception, thus, revealing the perceived value propositions of mobile payment. The theoretical framework of the study departs from TAM (Technology Acceptance Model) and elaborates the elements within the model by integrating the consumer perspective. Combining with the four value dimensions lens, we propose hypotheses which question the correlation between consumer-related factors, types of usages intentions as well as technology/mobile device proficiency and consumer perceived values concerning mobile payment.

The research deploys survey as the primary research method to collect data in order to verify the proposed hypotheses. The survey was designed to collect both quantitative and qualitative data as empathy-based storytelling was included. Survey was randomly distributed through virtual platforms which eventually gathered 148 responses. After data collection, Microsoft Excel was used for descriptive statistical analysis, whereas SPSS was deployed to further conduct statistical analyses. In terms of qualitative section, the responses to the scenario and open comments were the main input of analysis.

Results from statistical analyses have proved the correlation between cultural background, types of usages intentions as well as technology/mobile device and consumers value perception regarding mobile payment. In addition, the analysis also indicated that there is a correlation between the cultural background of consumers and their primary usage intention. However, there was no significant evidence found to support the correlation between the demographics of consumers including age, gender and prior experience, and their value perception of mobile payment. From the scenario analysis, reasons rooted in the cultural background of respondents were discussed to further explain the correlation effect between cultural background and consumer value perception.

Concluding both quantitative and qualitative analysis, we identified two predominant influencers of consumer value perception: 1). The cultural background of consumer; and 2). The design and infrastructure of mobile payment. Accordingly, not only should service providers develop more advanced mobile payment, but also should they design unique value proposition for different markets with distinctive cultures.

Finally, this study contributes to the existing knowledge regarding consumer perception on mobile payment. Academically, it expands the frame of TAM by infusing the four value dimensions which broadens the research path. In practice, the findings can provide valuable information with consumer-proximity to the mobile payment businesses in order to better their product offering, which eventually accelerates the progress towards a cashless society.

Keywords: Cashless society, Mobile payment, Cross-cultural consumer behaviour, Consumer value perception.

The originality of this thesis has been checked using the Turnitin OriginalityCheck service.

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List of Abbreviation

TAM – Technology Acceptance Model

TRA – Theory of Reasoned Action

C2C – Customer to Customer

C2B – Customer to Business

C2M – Customer to Merchant

NFC – Near Field Communication

QR – Quick Response

CVP – Customer Value Proposition

UI – User Interface

AI – Artificial Intelligence

SPSS – Statistical Product and Service Solution

One-way ANOVA – One-way Analysis of Variance

C2Cornot – “C2C transfer chosen as the most-used function or not”

EcoVmean – Mean value of Economic Value Score

FuncVmean – Mean value of Functional Value Score

EmoVmean – Mean value of Emotional Value Score

SybVmean - Mean value of Symbolic Value Score

UTAUT – Unified Theory of Acceptance and Use of Technology

TPB – Theory of Planned Behaviour

1 INTRODUCTION

1.1 Moving Towards a Cashless Society

Striking as it may seem, digitalisation has slowly engulfed the lives of human beings. Think about going to the hospital: we do not need to memorise the details of our medical records, because the information and personal data are digitalised and stored in the computer within the reach of one single click (McLoughlin, Gattety & Wilson, 2017). Another example would be the communication method that we use nowadays. Thanks to digitalisation, we are able to connect and communicate with others via social media regardless of the time and location constraints (Çayci & Karagülle, 2016). However, it is undeniable that the feasibility of digitalisation is accompanied by the advanced technology.

Although computers may be one of the tools used to achieve digitalisation, its usage has declined significantly comparing to the usage of mobile phones. In fact, in 2017, 67% of the traffic data came from mobile devices over the world and the preference figure of mobile devices is still increasing (Enge, 2018). Such phenomenon attributes to the advanced development of both the software (compatibility) and hardware (capability) so that more sophisticated tasks can be carried out by mobile devices (Adepu & Adler, 2016; Business Insider, 2013; Computer Hope, 2018). Amongst all aspects that mobile devices have been involved in, finance management, or mobile payment to be more exact, is considered to be the most innovative and influential one in the recent years as it is the major stimulus of a cashless society (Zainudin, 2018).

A cashless society, as the term states, is the society which fully eliminates the usage of cash and completely supports digital payment methods. Its development can be initially traced back to the emergence of debit and credit cards in the 1960s and 1970s. However, the market share of cash has only started to decline until recent years, and it is believed that the sophistication of mobile technology along with the popularisation of digitalisation are the key influential forces (Zainudin, 2018). Such phenomenon has aroused increasing attention among media, practitioners and researchers. Some argue that moving towards a cashless society would cause risks varying from personal finance management to the breach of private data, while others assert that it would significantly increase the transparency of transactions, thus, minimising financial crimes. (Bátiz-Lazo, Karlsson & Thodenius,

2014; Marria, 2018; Pritchard, 2019) Despite the risks, examples of “nearly” cashless societies are emerging worldwide.

Nordic countries including Denmark, Finland and Sweden are advanced in the progress of moving towards cashless society. Sweden, in particular, is considered as a leader in this field (Skingsley, 2018). According to Skingsley (2018), the value of cash in the market share dropped to only 1% of the entire Swedish GDP, while card payment and mobile payment divide the rest of the marketplace. The leading position of Sweden comes from the collective efforts of various actors. First of all, Sweden, amongst all the other countries, provides legislation which encourages digital payment methods by allowing the refusal of cash with clear notices. Secondly, there are various digital payment options such as card payment, Swish and PayPal. Moreover, Savage (2017) discovers that Swedish people are genuinely willing to accept and experience new technologies. The most popular application, Swish, was downloaded by half of the population in Sweden in 2017. Lastly, the central-banking is also working towards the digitalisation of currency by introducing the “E-Krona”, a digital form of currency.

Surprisingly, the ubiquity of digital payment method has emerged in developing countries as well. For example, in China, Alipay has a solid and dominant position in the mobile payment industry. Such payment technology requires no cash or cards, but merely internet and a mobile device. In 2017, there were 527.03 million users of mobile payments, and 39% of them are Alipay users (CNNIC., n.d.; Fung Global Retail & Technology., n.d.). Moreover, the payment system has already penetrated into numerous other industries. The smart parking system in Shanghai is a prime example. The parking slot deploys cameras which recognise the plate of the car, and because the plate is connected to the payment application so that the parking fee will be automatically charged when leaving the parking lot. Such cross-industrial cooperation is collectively working towards building a smart cluster, thus, leading to an intelligent society. (Tranbbs.com, 2018)

The emergence of these examples attracts increasing attention to the subject of mobile payment. The ubiquitous usage of mobile payment in a developing country like China is surprising and inspiring, as it is barely considered in many developed countries. Germany, for instance, retains the traditional approach of payment – cash. In 2017, 50% of the total revenues of the German retail sector still came in the form of cash (EHI Retail Institute., n.d.). Card payment is far from popularisation, not to mention the mobile payment. Moreover, due to the new emergence of such technology, the amount of existing research on the subject is relatively smaller comparing to it of card payment or banking

services. For example, Bátiz-Lazo et al. (2014) discuss the early development of the cashless society through Swedish and British saving banking industry. In the article, they identified certain difficulties in delivering such society. In addition to the lack of particular attention, the existing research on the subject primarily focuses on the attributes of mobile payment applications such as the easiness of use, design of the UI, the compatibility and other technical factors. In other words, they mainly inform companies regarding the most optimised attributes of a payment application.

While the technical attributes can be key success factors of mobile payment, the importance of consumer perceptions of mobile payment is undoubtedly as equal, or even more crucial. Schierz, Schilke & Wirtz (2010) analyse the consumer acceptance intentions and behaviours of mobile payment by verifying ten hypotheses which evaluate different factors that contribute to the acceptance such as individual mobility and subjective norms. However, the existing literature from such perspective is far from adequate, and the complexity of consumer behaviour as well as the contemporality of mobile payment require more in-depth comprehension.

1.2 Research Aim & Research Questions

Responding to the deficiency, the general aim of the thesis is to analyse and to understand the formation of a cashless society as a phenomenon, which particularly stimulated by mobile payments. Due to the shortage of consumer perspective in the field, the research will depart from such angle, targeting at assessing the value proposition perceived by the consumers rather than the predetermined one. Specifically, how mobile payments are perceived, accepted and used are included in the research content. Moreover, the thesis focuses primarily on the cross-cultural consumer behaviour and observes the different behavioural patterns across various cultures. While consumer behaviour mainly concentrates on the exchange moment and explores the reason which leads to a decision of purchase, or in this case usage or not, a cultural aspect brings contextual factors into analysis (Featherstone, 2007; MSG, n.d.). As the perceived value proposition is also a highly subjective notion, analysing the cross-cultural consumer behaviour would yield more relevant and valuable information for the research topic as well.

To clarify and represent the research aim, the research question is defined as following:

“What are the value propositions of mobile payment?”

In addition, a sub-question of “Which antecedents influence consumer perceptions?” is also proposed to contribute to the essential question.

The outcome of the research will help to: 1). Understand what mobile payment and its features are; 2). How consumers perceive mobile payment and its features; and 3). What factors could lead, and/or possibly alter, the consumer perception. Eventually, the final outcome of the thesis should serve both consumers and service providers because it not only reveals the value propositions of mobile payment, but also opens up opportunities for companies to correctly market their products. Academically, the result should better the comprehension of the newly-emerged technology as well as the on-going controversial process of moving towards a cashless society, and hopefully expand the research spectrum concerning the subject.

1.3 Key Concepts

As every research is conducted within a unique situation, it is important to emphasise the contextuality of the research. Consequently, for readers to clearly comprehend the research and mitigate confusions, definitions of crucial terms used in the thesis are provided as following:

Cashless society – Cashless society refers to the society which has fully eliminated the usage of cash and replaced it with digital payment methods such as banking services, card payments and mobile payments. Cashless society should also support the usage of digital payment method from various aspects such as legislations, markets, relevant industries and the local community (Bátiz-Lazo et al., 2014; Marria, 2018; Pritchard, 2019). However, cashless society does not refer to the unification of currencies. In this research, we solely focus on mobile payment as the stimulus of cashless society because of its new emergence and the lack of existing understanding.

Mobile payment – mobile payment refers to the regulated payment services carried out solely via a mobile device. May it be mobile money transfer, mobile wallet, or text message payment, they all belong to the notion of mobile payment. (Kim, Mirusmonov & Lee, 2010; Schierz et al., 2010; Yang, Liu, Li & Yu, 2015; Zhou, 2013) According to Allums (2014), there are four categories of mobile payment including consumer payment, merchant payment, person-to-person payment and institutional payment.

Value proposition - Yrjölä (2015, p.30) gives a definition that “a customer value proposition is a competitive statement of the dimension of value offered to a specific group of customers, the ways in which the firm creates value and reasons for customer to select the firm’s offering”. In other words, it can be considered as the communication and explanation of the product to the customers.

Western culture and Westerners – the original concepts of the two refer to the commonly shared values, norms and beliefs in mostly European countries and the North America and the residences in those regions. However, within the context of this research, they are filtered to the respondents in those regions and their cultural backgrounds. ‘Western’ refers to the respondents coming from other countries outside Asian, Africa and South America. In this survey, they are mostly Europeans with a majority of Finnish.

1.4 Thesis Structure

As indicated in the *Figure 1*, the entire thesis consists of five chapters. The first chapter Introduction, as presented so far, paves the background for the research topic. In addition, it clarifies the research aim and research questions. Consecutively, it provides definitions for several terms used in the thesis so that the confusion caused by different contextualities is avoided.

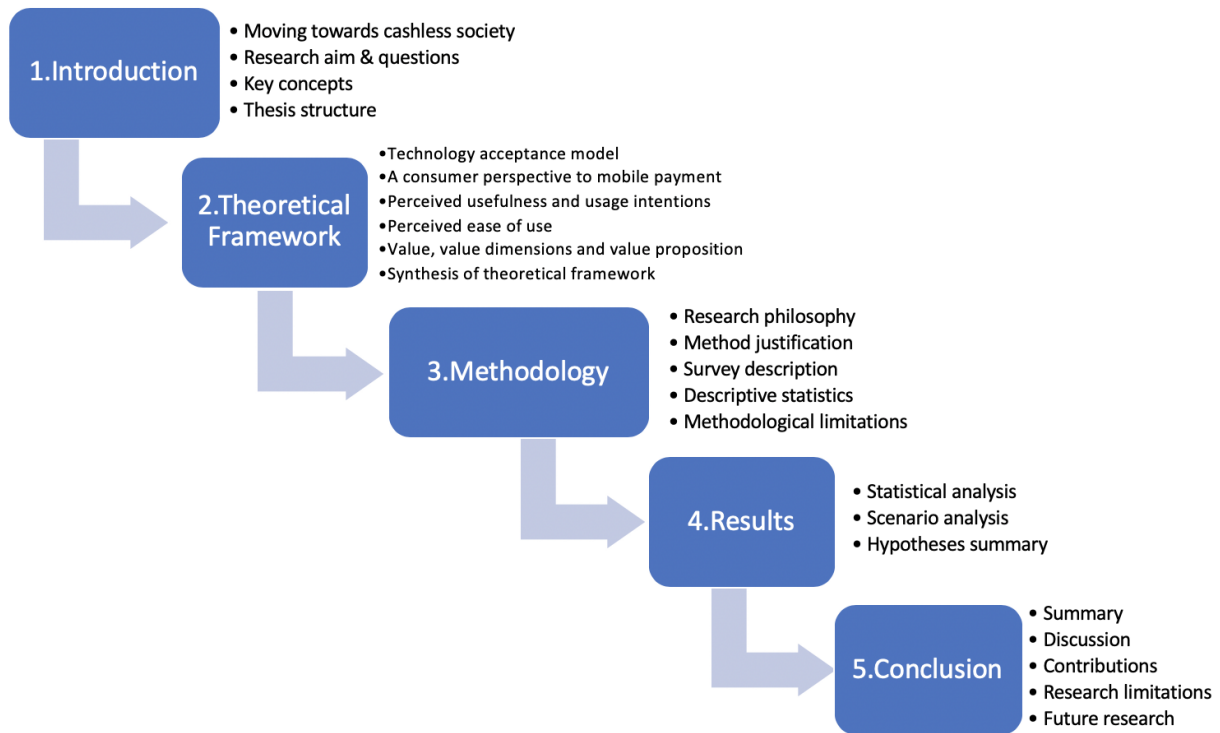


Figure 1 Thesis Structure.

The remaining parts of the thesis starts with Chapter 2 Theoretical Framework. It reviews the existing relevant research on the subject of mobile payment and strives to provide not only a lens for analysis, but also potential hypotheses for the research. The chapter begins with the establishment of the fundamental framework by referring to the technology acceptance model (TAM). Following is the introduction of antecedents derived from the unique cross-cultural consumer behaviour perspective. The key elements in TAM are then elaborated to the extended level. Consecutively, the chapter explains the value dimensions lens adopted for the analysis. Eventually, the chapter ends with the synthesis of a theoretical framework so that a holistic view of the entire research can be constructed.

Chapter 3 Methodology provides all the necessary information regarding the actual research. It starts with the research philosophy and method justification, explaining how the research produces knowledge and providing prominent reasons for selecting quantitative research method. Then, it moves on to describing the formation and content of the survey. The process of data collection, the statistical results gathered by the survey, as well as tools and methods used for data analysis are also included in the chapter. Lastly, to align to the academic research ethics and responsibilities, the limitations of the method are presented.

Following methodology, Chapter 4 Results presents in-depth statistical analyses conducted in SPSS. In addition, the chapter also features a content analysis based on the qualitative data collected through the survey. Eventually, a summary of results of all the proposed hypotheses is presented.

Lastly, Chapter 5 concludes the entire research by providing a comprehensive thesis summary. It includes the general discussion of the findings and the contributions brought by the research. Additionally, to match the requirement and ethical standards of academic research and writing, the thesis ends with the provision of research limitations as well as potential paths for future research.

2 THEORETICAL FRAMEWORK

The second chapter reviews the existing theories and research about the subject. Initially, we establish a solid research foundation by introducing the TAM (Technology Acceptance Model) theory which serves as the basis for the selection of antecedents. Secondly, we elaborate each of the antecedents and review the existing studies conducted on the subject. The selected antecedents include consumer demographics, the purpose or intention of using mobile payment, and the technology and mobile device proficiency. Consecutively, after the confirmation of selected antecedents, we depict a research lens which probes deeper into what value is, what its components are and how it can be improved. Therefore, we are able to understand what these antecedents are affecting or leading to. Eventually, the chapter delineates the formation of theoretical framework as well as the research hypotheses.

2.1 Technology Acceptance Model (TAM)

Nowadays, mobile phones may be considered as a life necessity product to every individual as many social activities and interactions are carried out via mobile phones, thus, the introduction of this particular product is no novel topic. However, fresh as it may seem, mobile payment is a continuously developing innovation in the recent years. As mentioned previously, the progress towards cashless society started from the banking industry with the introduction of banking services and financial management activities. Later on, Internet and digitalisation has slowly engulfed every inch of our lives, and currency is no exception. The consecutive appearance of bank cards, credit cards, mobile phones, mobile banks have eventually led to mobile payment, a crucial stimulus of reaching the destination of cashless society. (Bátiz-Lazo et al., 2014; Marria, 2018; Pritchard, 2019)

In order to conduct research on such contemporary innovation, the introduction of TAM (Technology Acceptance Model) is an undoubtedly prerequisite. Technology acceptance model, as the term states itself, is the model which provides the research framework to analyse the acceptance behaviour of users towards certain technologies. Initially introduced by Davis (1989), TAM developed upon TRA (Theory of Reasoned Action), a theory adopting a rather rational perspective and analysing users' intentions behind their behaviours, proposing many additional antecedents of behavioural intentions. Since then, TAM has been a commonly used research model in the field of consumer behaviour and

technology introduction (Al-Emran, Mezhyuev & Kamaludin, 2018; Holden & Karsh, 2010; Marangunić & Granić, 2015; Surendran, 2013).

Figure 2 depicts the original TAM proposed by Davis (1989). As indicated, the key elements in TAM are perceived usefulness as well as the perceived ease of use. Specifically, perceived usefulness refers to the degree to which a user can increase his or her performance by deploying the technology in question, while ‘perceived ease of use’ is considered as the degree of effort that a user is required to invest in deploying the technology (Tan, Ooi, Chong & Hew, 2014).

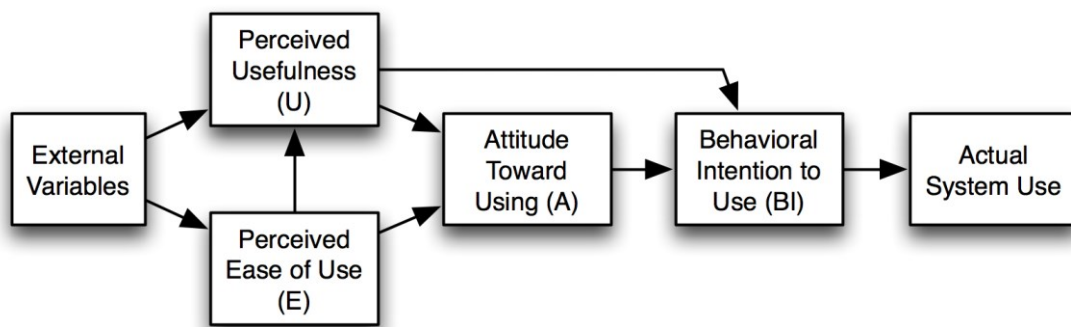


Figure 2 Technology Acceptance Model (TAM) (Davis, 1989; adapted from Surendran, 2012, 176).

Both of the two elements are considered determinants of users’ attitude towards using a technology. While the perceived ease of use is influenced solely by external variables, perceived usefulness can be affected by both external variables and the perceived ease of use (Liébana-Cabanillas, Sánchez-Fernández & Muñoz-Leiva, 2014). In addition, the later one also has the possibility to exert impact directly on the behavioural intentions as the perceived usefulness immediately evaluates whether the perceived outcome could align to the expectation (Holden & Karsh, 2010). Therefore, these two elements are commonly exploited by technology providers to develop more consumer-friendly products. (Al-Emran et al., 2018; Marangunić & Granić, 2015; Oliveira, Thomas, Baptista & Campos, 2016; Surendran, 2012; Tan et al., 2014;)

Technology acceptance model serves as a perfect departure point for this particular research as we are able to identify various antecedents which connect or potentially influence the different stages in the acceptance formation process which eventually affect the final decision-making. In addition, mobile payment technology is also deemed as one of the innovations happened in the recent years,

thus, the context of TAM also matches with the research subject. However, because our research deploys a consumer perspective, the selection of the antecedents should also be screened accordingly.

2.2 A Consumer Perspective to Mobile Payment

While the external variables are believed to connect solely with the perceived usefulness and perceived ease of use, there are many other variables which can potentially exert impacts on the technology acceptance and adoption. Marangunić & Granić (2015) include in their paper more detailed technology acceptance models, whose external variables expand to experience, voluntariness, additional belief factors and factors from related models. Additionally, they are able to influence not only the perceived usefulness and ease of use, but also other stages in the process.

Combining such logic with the consumer perspective of the research, we should identify the external variables from consumers' angle. Therefore, we propose four key elements of consumers: age, gender, experience and cultural background (nationality).

2.2.1 Age

Initially, age, as the most obvious demographical information of consumers, can potentially exert remarkable impacts on their technology acceptance intentions and behaviours. In consumer research, age has always been a necessary variable in many settings. For example, Meneely, Burns & Strugnell (2009) conduct a research on the change of consumer retail behaviour based on the variables of age; Thaichon (2017) investigates the perception of children (young ages) regarding online shopping; and Suki (2013) examines and proves the effect of environmental knowledge and healthy lifestyle on the ecological behaviours amongst the younger generation. Indeed, the age of the consumer can exert great influence not only because of the increasing amount of experience gained, but also the different demands at various ages. Such assertion has been recognised in the ancient time, especially in the Chinese culture which is tremendously affected by Confucianism (Legge, 1983). Therefore, we propose the following hypothesis:

H1. The age of the consumers has an effect on their value perceptions of mobile payment.

2.2.2 Gender

Similar to age, gender, as the second demographical information, has also been a popular subject in various research areas. Studies have proved that gender differences exist from all perspectives – physically, psychologically, internally and externally. While Haaxma et al. (2007) discover the gender differences in Parkinson's diseases, McGeown (2012) dedicate her book to analyse the gender difference in psychology.

Furthermore, 'internally' and 'externally' refer to where the differences are formed. Internally, the differences are formed within the actor, and such differences lead to distinctive behavioural patterns. For example, Croson & Gneezy (2009) disclose the preferential difference derived from gender, asserting that male and female perceive distinctively on risk, social and competitive preferences. Sogra (2014) departs from the working style and identifies the different conflict management style attributing to the gender. Interesting as it may seem, according to Dreber & Johannesson (2008), male and female are also different in lying. On the other hand, gender differences can be formed externally, meaning that other individuals would react differently to male and to female. Gender discrimination is a prime example. Blau & Kahn (2000) reveal that not only the overall payment is different based on the gender of the employee, but qualifications and labour market treatment are also divergent.

Based on the existing evidence proving the influential power, we suggest the following hypothesis:

H2. The gender of the consumers has an effect on their value perceptions of mobile payment.

2.2.3 Experience

If we analyse the technology acceptance model as a whole, it takes no time to realise that the entire model is merely the process of a decision-making process specifically regarding the adoption of a new technology. Therefore, it is important to emphasise the role of experience as it tremendously affects the decision-making process.

In the notion of decision making, dual processing is not an unfamiliar term. Specifically, it is a decision-making scheme which contains two layers of processing for information. The first level is unconscious information processing which happens without the awareness of the actor, and often

referred as intuitive reaction. Such processing can be regarded as individual natural reaction to the information. Whereas the second layer implies the intentional learning of the information that leads to more rational decision-making. (Dane & Pratt, 2007)

In reality, the decision-making process does not necessarily have to go through the two layers in dual processing. Whether intentionally or not, people can make decisions based on their “gut feeling” or intuition. However, regardless of whether the decision is made intuitively or rationally, experience exerts remarkable influences in both circumstances. In intuitive decision-making, the impact of experience is often unnoticeable. The person in question will unconsciously refer to their past experience, which stimulates the formation of the “gut feeling”. For example, when both a fireman and a student noticed a fire at the same time, the intuitive reaction of the fireman is to immediately take actions such as preparing wet blankets, while the student would most probably call the fire department. The intuitive decision made by the fireman is not solely influenced by the occupation, but also the experiences rooted in his/her mind. (Dane & Pratt, 2007; March, 1991; March & Simon, n.d.)

As for rational decision-making, the impact of experience is relatively more visible. Generally, rational decision-making involves the consideration of the situation, the alternatives identification and consequences anticipation. However, there are limitations concerning human mind. Regardless of the sufficiency and accuracy of the external information, humans are unable to fully anticipate all the possible alternatives and the respective leading consequences. Instead, such anticipation usually derives from the experiences that the person in question acquired previously. For example, when we are at work, we often hold a specific position in the company, therefore, our tasks are somewhat repetitive. When we encounter a problem which occurred before, we would usually recall how we solved it before, and draw from previous experience to make a decision. Knowledge may be another key element in making rational decisions; however, when there is previous practical experience available, people tend to refer to the experience for the expected outcome. Additionally, even the negative or harmful experience can benefit the decision-making as they exclude the possibility to repeat the same mistake. (March, 1991; March & Simon, n.d.)

With the acknowledgement of the importance of experience in decision-making, we propose the following hypothesis:

H3. The length of prior experience of using mobile payment has an effect on consumers' value perceptions regarding mobile payment.

2.2.4 Cultural Background

When we discuss the demographics of consumers, nationality is listed as another necessary category. However, it is not the country where consumers come from that we are interested in, but their cultures which interfere the decision-making process.

The first definition ever given to culture was “the complex whole which includes knowledge, belief, art, morals, custom and any other capabilities and habit acquired by man as a member of society” (Soares, Farhangmehr & Shoham, 2007, 277). Mooij (2004, 26) describes culture as “the glue that binds groups together” and considers every individual as the product of their culture. The influence of culture has been recognised amongst various disciplines such as marketing, retailing and even politics. (Mooij, 2004; Sassatelli, 2007). Indeed, such influence is evident in reality as well. For example, in business ethics theory, the debate between ethical absolutism and ethical relativism is the representation of the differences that cultures can bring. While in European cultures, the action of “gift-giving” is strictly forbidden and related to bribery and corruption, it is perceived as a prerequisite of conducting business in Japanese culture. In fact, if someone rejects the gift when cooperating with Japanese companies, it is considered rude and often will jeopardise the cooperative relationship. (Crane & Matten, 2016)

Moreover, culture, at a macro level, works similarly to how experience influences individuals in decision-making. Culture originates from the history of the country, in which how “things were done” is recorded. In other words, it can be perceived as the perennial experience of the entire society. Therefore, regardless of whether the decision is made rationally or intuitively, same as experience, the force of culture interferes the mind of the decision-maker in stealth. (Mooij, 2004)

Accordingly, we introduce the following hypothesis:

H4. The cultural background of consumers has an effect on their value perceptions of mobile payment.

In order to probe deeper in the aspect of culture and to distinguish various cultures, we deploy the five cultural dimensions introduced by Hofstede – power distance, individualism/collectivism, masculinity/femininity, uncertainty avoidance, and long-term/short-term orientation. (Mooij, 2004; Soares et al., 2007) With these dimensions, we are able to attribute the perception differences to the cultural nuances.

Initially, power distance refers to the distance between the people who hold less power and those hold more. It can be regarded as the hierarchy structure in the society. In high power distance culture, people expect and consent to the hierarchy. For example, in Chinese companies, subordinates rarely reject or express different opinions from their managers despite no specific rule forbidding it. On the contrary, countries with low power distance is more likely to have a flat social structure where equality is highlighted. Nordic countries are the best representations of cultures with low power distance. (Mooij, 2004; Soares et al., 2007; Zhang & Spicer, 2014)

Secondly, despite human beings are all social animals, there are different priorities in cultures, and individualism and collectivism are the two ends of the axis. In individualistic culture, people prioritise themselves and express their individual opinion regardless of what others think or claim. However, in collectivistic culture, people try to blend into the group. Instead of expressing their opinions, they prefer to say what others are expecting to hear, thus, avoiding any possible conflict. In organisational studies, such action is known as “groupthinking”, and it can severely sabotage the creativity and innovations of the organisation. (Bénabou, 2013; Mooij, 2004; Soares et al., 2007)

Moreover, some people may argue that using feminine as an adjective to describe a culture has negative connotation. However, both masculinity and femininity are mere types of cultures which pursue diverging goals. In masculine culture, achievements and success are pursued and highly appreciated by the society as they are considered as the “bricks” to build up the statue of a person. Feminine culture, on the other hand, emphasises the quality of life and is more considerate of the others in the same community. (Mooij, 2004; Soares et al., 2007)

Furthermore, uncertainty avoidance refers to the degree to which people feel threatened or uncomfortable regarding the uncertainty (Mooij, 2004). Smit (2016) proposed four characteristics of high uncertainty avoidance countries: 1). More structures, rules and expertise; 2). Security emphasis; 3). Hectic life; and 4). More emotional. These characteristics can be interpreted as either the embodiment of high uncertainty avoidance or the coping mechanism to it.

The last dimension of Hofstede's model is the long-term versus short-term orientation. This particular dimension is emergent in the decisions made by people and is often associated with individualism and collectivism. China, for instance, is a prime representation of the long-term orientation accompanied by collectivism. Because of the perennial impact of Confucianism, family has always been placed in the core value in China. However, such family orientation not only means taking care of the family members, but also preserving the family line. Therefore, both collectivism and long-term orientation has rooted in China. (Mooij, 2004)

2.3 Perceived Usefulness and Usage Intentions

With the establishment of the consumer perspective, we begin with one of the two key elements in TAM – the perceived usefulness of mobile payment. As mentioned before, the perceived usefulness is the degree to which users can increase their performance quality by deploying the technology, in this case, mobile payment. In other words, it is the question of whether mobile payment as the means can satisfy consumers' ends. (Tan et al., 2014) However, the logic behind the perceived usefulness and TAM is somewhat contradictory. While TAM analyses what main drivers are for users to accept a new technology, implying that users have not yet used the technology, the perceived usefulness cannot be accurately predicted before the actual usage. Therefore, the information collected is inaccurate. Instead, combining with the consumer perspective, we directly address what ends consumers aim to achieve by analysing the intention of using mobile payment, thus, providing a more precise view on the correlation in between the perceived usefulness and the attitude towards mobile payment.

TYPE	DESCRIPTION	EXAMPLES
Consumer payments	Paying a merchant for goods and services	Starbucks, Isis Wallet
Merchant payments	Receiving money in exchange for goods or service from a consumer	Square Register, PayPal Here
Person-to-person payments	Sending money to another person, as a gift or payback	Venmo, Dwolla
Institutional payments	Paying an institution for a monthly utility bill or debt	Check, Mobilligy

Figure 3 Basic categories of mobile payments by Allums (2014, vi.).

Naturally, when users consider mobile payment as one of the options which can serve their ends, what they are looking for cannot be completely irrelevant activity such as watching live streaming. However, with the various product offerings in the market, it is extremely difficult to include all the intentions of every end-user. Therefore, we depart from the design perspective of mobile payment, and analyse the predetermined purposes of such product offering at a rather general level in order to include as many intentions as possible. Allums (2014) suggests four basic types of mobile payment and other advancements in mobile payment such as Near Field Communication. Based on his findings (See *Figure 3*), we propose four categories of usage intentions concerning mobile payment – Consumer-to-Consumer transfer (C2C); Consumer-to-Business transfer (C2B); Consumer-to-Merchant transfer (C2M); and Replacement of Cash.

2.3.1 Consumer-to-Consumer Transfer (C2C)

The Consumer-to-Consumer transfer is identical to what Allums (2014) categorises as the person-to-person payments. In reality, there are often situations when we need to transfer to other people. It can be that we accidentally forgot our wallet at home, and we have to pay back to a friend who helped with the embarrassing situation. Undeniably, cash and bank transfer are also viable solutions to the

issue; however, both of them require much more time and efforts comparing to the simple input to the mobile payment applications.

Examples of C2C transfer can be found in many countries. Allum (2014) listed Venmo and Dwolla as examples in this category. Although there is no doubt that both applications are capable of handling C2C transfers, we would discuss a more user-friendly, or smart designed application called “Wechat Wallet” (See *Figure 4*). Wechat is currently the most popular and commonly used social application in China. According to Iqbal (2019), there were over 1.08 billion monthly active users in Wechat in 2018, and around 45 billion Wechat messages were sent on a daily basis. However, Wechat is not a mere communication application, it has various functions, and mobile payment is one of them. Combining with the social application features, the convenience of C2C transfer is maximised as people to whom we might have the need to transfer money are already in the contact list. The transfer requires no effort. The operation merely involves the input of the amount to transfer, a predetermined password and the confirmation of receiving from the recipient. According to Iqbal (2019), there were over 820 million users who sent or received transfer via Wechat in 2019. Therefore, unlike other applications which is not commonly used by consumers on a daily basis, the C2C transfer in Wechat is considerably smarter.

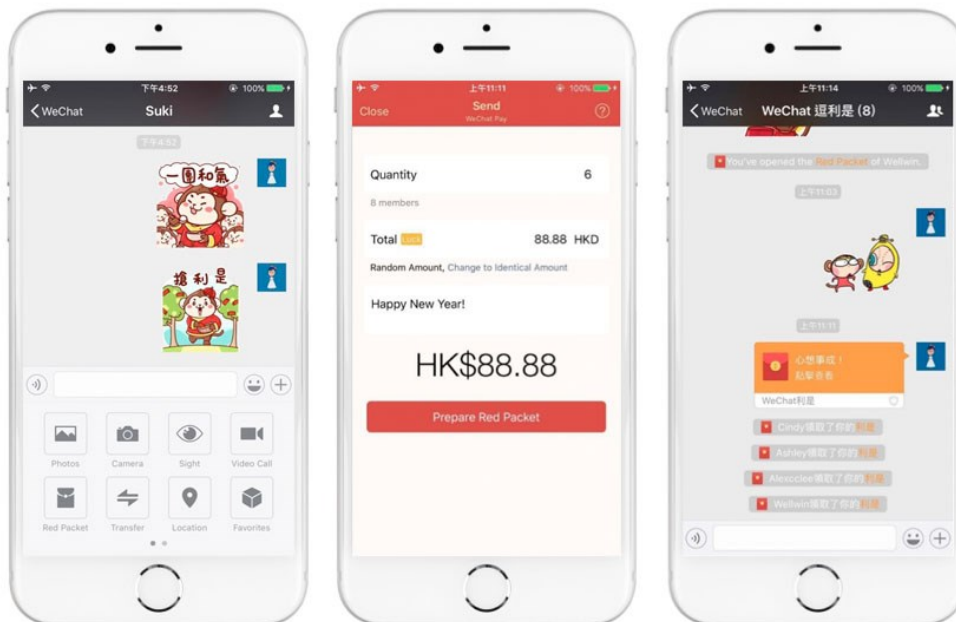


Figure 4 C2C Transfer in Wechat (Wechat Blog, 2016).

2.3.2 Consumer-to-Business Transfer (C2B)

Consumer-to-Business transfer, similar to what Allums (2014) calls institutional payments, refers to the transfer initiated from a consumer to a company via mobile devices. Scenarios such as paying the rent to the property agency, paying electricity bills, water bills, phone bills and credit card bills recurrently occur in the mundane life of every individual. The characteristics of such transfer are that the task is usually repetitive, and consumers do not gain any additional, especially emotional value, from this activity.

Prism (See *Figure 5*) is an example of the category. It is a free-to-download application which initially requires an input of all the bills that the user need to pay. Then, the application is connected to a payment account so that the payment can be conducted directly and at once in Prism. Moreover, it also provides a clear review of the account balance as well as each bill paid so the management of finance is more convenient. (Financial Panther, 2019; Introducing Prism, n.d.)

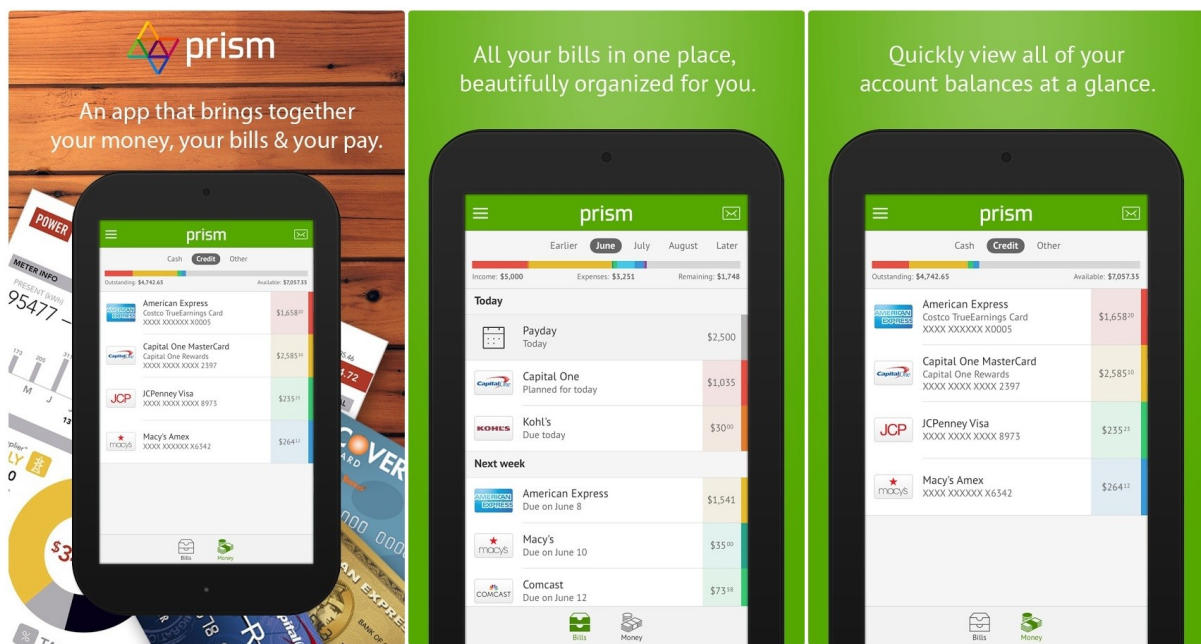


Figure 5 Prism Interface (Financial Panther, 2019).

2.3.3 Consumer-to-Merchant Transfer (C2M)

Consumer-to-Merchant transfer is the transfer initiated from consumers to a merchant in exchange for goods or services. Some might argue that merchants are also one of the business forms, however,

unlike paying bills, shopping is believed to bring joys and satisfaction to consumers, especially to female consumers. (Danziger, 2006; Huddleston & Minahan, 2011) Therefore, what distinguish C2B transfer and C2M transfer are the irregularity and additional value gained by consumers.

In addition, in the contemporary society where digitalisation has penetrated every corner of human life, shopping is a “victim” as well. Online shopping and e-commerce are no longer strange concepts. According to Corless (2019), there are 87% of the consumers who use e-commerce reviews as their determinants for purchasing, and 77% of these consumers actually purchase through e-commerce channels. Therefore, online shopping undoubtedly is one of the most important and recurrent consumer behaviours, thus, Consumer-to-Merchant transfer, in this case, requires separate attention. As for this category, many mobile payment applications are able to carry out the desired function such as PayPal, Alipay or mobile banking applications, as it requires merely the action of paying online.

2.3.4 Replacement of Cash

The last category of mobile payment is the replacement of cash, which, just as the term states itself, refers to the transfer paid via mobile devices in situations where cash is used. One of the common scenarios is what Allums (2014) describes as consumer payment. For example, instead of paying cash at the store, consumers can use Starbucks application to complete the payment. In Starbucks application, customers can simply open the application, order the drink, pay via their mobile phones and choose the desired location to get their drinks without waiting in the queue. In addition, such application also features a membership card which allows customers to collect points to receive gifts or coupons. It not only brings conveniences to customers, but also establishes customer loyalty from the company perspective. (ThinkMobiles, n.d.)

The order-and-pay type of application may be one exemplification of how mobile payment replaces cash; however, if consumers want to use mobile payment as their main payment method, countless applications are needed for each vender or shop they encounter. Therefore, near field communication (NFC) and QR code are the two solutions to the dilemma.

Near field communication can be simply regarded as “the technology which enables wireless data transfer through the close proximity to communicate without any internet connection” (Faulkner,

2017). It is also the NFC technology that makes mobile payment replacing cash feasible. With the capable devices, the effort required from consumers is to simply open the application and tap onto the devices at the register of a shop, after which the payment is completed. Such tap-and-go services are common in the market, for example, Apple Pay and Google Wallet are the applications with the most users in the field. (Allums, 2014; Faulkner, 2017)

QR (Quick Response) code may sound unfamiliar to some people; however, it is the identical concept as barcode to products. When we are checking out at a register in the supermarket, the cashier scans the barcode on the product and the price is indicated on the screen. Similarly, QR code for mobile payment can be interpreted as the barcode for the transaction. Once the code is scanned, the price is shown on the screen of the mobile phone, and the transfer action can be completed immediately with the input of the passcode. (Allums, 2014) In China, QR code is commonly used in various industries. For example, in restaurant industry, QR codes are placed on each table in the restaurant, and by scanning the code, customers can order food and pay for the meal without the assistance of waiters. Such technology is especially popular in the fast food restaurants as there are usually less waiter staffs, and from customer perspective, they do not need to wait in queue to order and to be served. In addition, unlike vender applications, QR code is more versatile, meaning that large as a chain restaurant, small as a kiosk can all create their own QR codes for payment, and consumers only have to download one application which includes the functions to access to all venders. (Wang, 2017) Therefore, the replacement of cash by mobile payment can be achieved at no cost of convenience.

Eventually, after the explanation of each type of usage intentions, we introduce the following hypothesis:

H5. The type of usage intentions of mobile payment has an effect on the value perceptions of mobile payment.

As explained earlier that culture background has a significant impact on the priority and behaviours of different nationalities, we also suggest the following hypothesis:

H6. The cultural background of consumers has an effect on the type of usage intentions of mobile payment.

2.4 Perceived Ease of Use

Moving onto the other element in TAM, the perceived ease of use refers to the degree of effort in which users have to invest when deploying a new technology (Tan et al., 2014). Indeed, the perceived ease of use has always been a crucial point in technology acceptance analysis, not to mention the newly-emerged mobile payment applications.

Schierz et al. (2010) include the perceived ease of use of mobile payment in their hypotheses, stating that there is a positive relationship between the ease of use and the attitude towards using mobile payment as well as the perceived usefulness of mobile payment. The data gathered by Schierz et al. further supported the hypothesis, thus, proving the positive relationship. Further, Kim et al. (2010) proposed exact same hypothesis in their paper as they believe that mobile payment should be easy to learn and easy to use.

Above mentioned examples are tips of the iceberg in the existing literature regarding the perceived ease of use in technology acceptance. Because of the widely-known TAM theory, the perceived ease of use has been constantly placed under the research scope. (Sharma, Yetton & Crawford, 2009; Thakur & Srivastava, 2014). Observing the existing researches, a common feature that all of them concentrate on the features and design of the mobile payment application is emergent. Schierz et al. (2010) specifically mention about the technical designs such as symbols, function keys, graphic designs and user interface designs. In other words, there is barely any literature that sheds light to the consumers from such angle.

As a result, we, deploying the consumer perspective, approach the perceived ease of use from consumers and introduce the notions of technology proficiency and mobile device proficiency.

2.4.1 Technology Proficiency

It is convincing to imagine that a high school student would consider completing math questions in primary school exam effortless as they have gained much more knowledge than what the test requires. In using mobile payment, it is the identical logic. Undeniably, the UI and other user-friendly design

of mobile payment can remarkably increase the perceived ease of use. However, the better consumers grasp technology, the easier they perceive mobile payment as well.

Technology proficiency refers to the degree to which users are able to apply the technical knowledge and skills in their tasks to achieve the desired output (Modi, 2016). It contains competences from various aspects such as computer skills, Windows operating system skills, Internet and web browsing skills, emails, file management, social networking and so on. (Technology Proficiency Checklist, n.d.) A high score in the technology proficiency test may not directly imply that the user can master mobile payment; however, it does suggest the user's familiarity with technology in general, thus, leading to the higher perceived ease of use regarding mobile payment. Therefore, we propose the following hypothesis:

H7. The technology proficiency level of consumers has a positive effect on their value perceptions of mobile payment.

2.4.2 Mobile Device Proficiency

Technology proficiency test may reveal the familiarity with technology; however, the analysis remains at a general level. According to the definition of mobile payment, mobile device is the prerequisite tool which enables the financial activities, therefore, analysing the mobile device proficiency of consumers is necessary.

Similar to technology proficiency, mobile device proficiency refers to the degree to which users are able to apply their mobile device knowledges and skills in their tasks to achieve the desired output. The questions in the mobile device proficiency are directly related to the usage of mobile device, such as the interface navigation, communication tools, data and file storage, internet, calendar functions, entertainment, privacy and troubleshooting and software management. (Roque & Boot, 2018) Instinctively, we would assume that a high mobile device proficiency score implies high perceived ease of use of mobile payment, as mobile usages skills are directly addressed. As a result, we assert:

H8. The mobile device proficiency level of consumers has a positive effect on their value perceptions of mobile payment.

2.5 Value, Value Dimensions and Value Proposition

After settling the antecedents which might affect consumer perceptions, it is important to observe how the attitude changes and what exactly are affected. Hence, we introduce the concept of value and its dimensions. In addition, the notion of value proposition is also included so that how mobile payment communicates and delivers the value elements to consumers can be understood and potentially designed for service providers.

2.5.1 Value, Its Nature and Models

Value, as a concept, has gained its crucial position in the business field, especially in the marketing discipline. However, despite of the popularity and numerous discussions, there is no consensus on what exactly value refers to because of its multidimensions, complexity and contextuality. (Gallarza, Gil-Saura & Holbrook, 2012; Gallarza, Gil-Saura & Ruiz-Molina, 2016; Gallarza & Saura, 2006; Holbrook, 2002; Sanchez-Fernandez & Iniesta-Bonillo, 2007;) For example, when purchasing a photo album, it could be the guardian of the memory for one, while being merely where the printed photos go to for the others, or in some cases, both of the dimensions exist simultaneously with various value proportions. Often, it is the subjective judgement on the more crucial dimension that affects the final purchasing decision. Another example would be that the value of the photo album would be completely different when one is looking at it on a normal day from when one recently lost a dear friend who happens to be in the photos taken from one trip. Nonetheless, the marketers and companies are seeking to identify the factors which might increase the value, which eventually, leads to a purchase decision and satisfaction after purchase.

Although many efforts were invested by the researchers and marketers, to conduct research on value is difficult. Gallarza et al. (2012) suggest that there are conceptual, methodological and measurement obstacles when conducting a value research. First of all, as there is no consensus on the concept of value, the approach how people recognise value is different. Some might consider it as an output which can be achieved by the input of resources, while others think it is highly dependent on the recipient side. In fact, it is a common mistake made by companies because they are overly focusing on the creation of value (to design and create a value-packed product or service) and neglect how consumers or end-users perceive their creations (Khalifa, 2004). In other words, the relation between

the intended and the received is asymmetrical. Secondly, due to the contextuality and subjectivity of value, there is no fixed nature and amount of value. There are unique and relevant values in each situation, and only through contacting the end-user, can the perceived value be identified for that person in the given context. Finally, it is impossible to measure the value because of its complexity and subjectivity involved. While some might assert that the price of the product is the measurement, there is no consensus on the price as the same product may even have different prices due to the subjectivity of companies and their value standards. Therefore, value is individual in its nature.

Fortunately, we do not need to depart from all angles of value in this research, instead, we solely focus on the consumer perceived value. Thanks to the existing research and theory in the marketing discipline, there are various value models in different contexts which can collectively draft an ingredient list of customer value. Khalifa (2004) looks into the existing value models and infuses them with contemporary requirements so that the integrated models fit the current business model and trend.

Primarily, we concentrate on the value buildup model and value dynamics model as both of them highlight the hedonic aspects of consumer value. Value build-up model (*Figure 6*) is, to some extent, the combination of value component model and means-end model as it looks into all the components of value in order to design a better-perceived product from the company perspective. As indicated in the figure, in addition to the psychic value rooted within the product, the value build-up model also views the relationship between the company and customers, as well as the treatment of customers. Collectively, they provide a dynamic view of how customer perceived value increases, therefore, companies can improve their offerings accordingly.

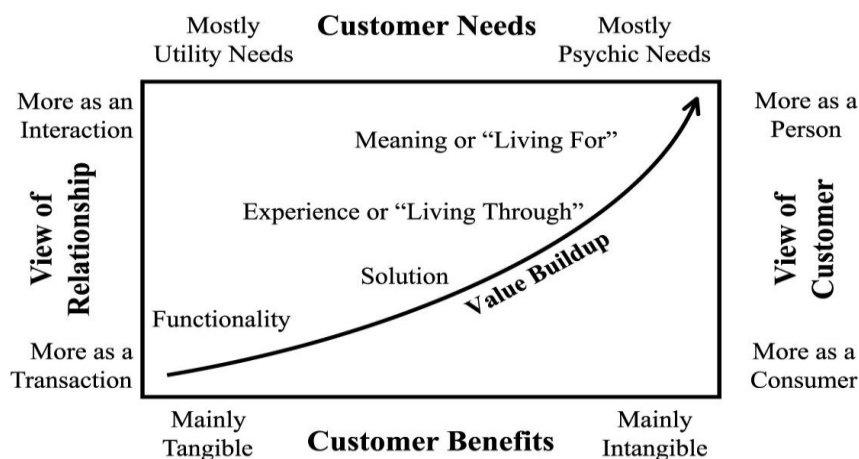


Figure 6 Customer value buildup (Khalifa, 2004, 657).

Value dynamic model, as the name states, concentrates more on the dynamic aspect of value. It develops upon the Kano's value model and the implicit, explicit and unexpected values, suggesting that there are forces which could significantly drive the direction of value, either skyrocketing or plunging to the bottom. These forces are known as value magnifier and value destroyer. The source of the two forces come once again from the emotions of customers. Although unexpected values exist in the offering, the ignorance of such psychical demand can even lead to the outrage of customers. (See Figure 7)

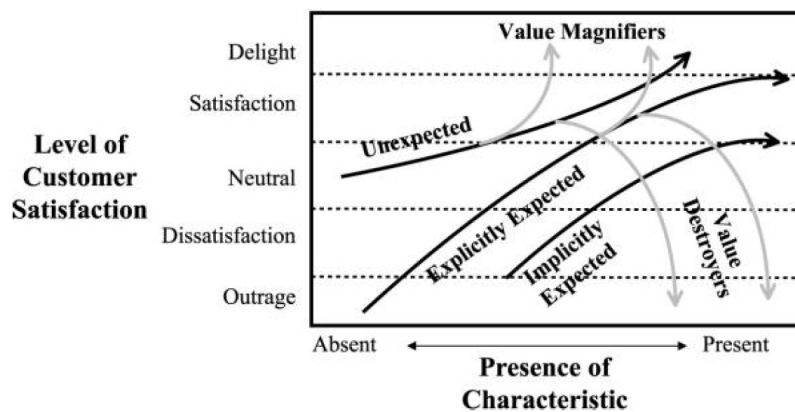


Figure 7 Customer value dynamics (Khalifa, 2004, 658).

2.5.2 Value Dimensions

When reviewing the advanced models of value, it is obvious that one crucial element, psychic values of customers, is added to the traditional ones. Indeed, value, as a concept, has multi-facets; however, the financial and functional values have been the dominant foci regarding the subject. Therefore, it is important to recognise the various dimensions of perceived consumer value in order to holistically understand the benefits and sacrifices of using mobile payment.

Holbrook (2002) divides consumer value based on three criteria: self-oriented/other-oriented; active/reactive; and extrinsic/intrinsic. Values are categorised into different groups including efficiency, excellence, aesthetics, esteem and so on. The categorisation of Holbrook is undoubtedly a comprehensive one. The orientation refers to the end to which the value is beneficial. Self-oriented value, selfish as it may seem, focus on the “myself” side, while the other orientation sheds light on

others which includes not only other people, but also society, community and the world. Secondly, active/reactive discusses whether it is consumer or the product which is considered as the main value creator. In the contemporary business environment, value co-creation is no novel idea. Through the consumption of product, discussion on the internet, personal recommendation and other approaches, consumers can easily participate in the value creation process (Grönroos, 2008; Saarijärvi, Kannan & Kuusela, 2013). Eventually, the extrinsic and intrinsic criteria can be regarded as the different types of approaches in which a product or service fulfil the purpose. Extrinsic value often refers to the functional value, while intrinsic value relates to creating experience which are more emotional and psychical.

As the research topic is to analyse mobile payment from consumer perception perspective, we primarily concentrate on four dimensions of value. In fact, these four dimensions can be regarded as a more general level of value categorisation comparing to Holbrook's work. They are often used in the research which departs from consumer perspective in various industries, such as tourism and retailing (Gallarza et al., 2016; Gallarza & Gil-Saura, 2006; Rintamäki, 2016; Saarijärvi, Mitronen & Yrjölä, 2014; Wiedmann, Hennigs & Siebels, 2009). The four dimensions are economic, functional, emotional, and symbolic.

Economic value, as the term states, is the financial value of the product. From the consumer perspective, it is usually monetary and straightforward. Prices and discounts are prime examples of economic values. Saarijärvi et al. (2014) asserts that in the food retailing industry, consumers often compare the prices and look for discounts for both the current purchase and future purchase during the entire purchasing process.

Functional value, belonging to the extrinsic group, refers to the utilitarian value brought by the product. It is always linked to the purpose of the consumer; thus, functions values are the most important foci in the means-end value model (Holbrook, 2002; Khalifa, 2004). The extent to which a product or service achieves the purpose of the customer significantly influences their satisfaction level of the product and the likelihood of their recommendations or future purchase. Apart from the level of fulfilment, the utilitarian value also involves efficiency as well as time and other resources factors. Products that complete the task faster than others or requires less efforts are perceived acquiring more utilitarian values. (Gallarza, Arteaga, Del Chiappa & Gil-Saura, 2015; Gallarza et al., 2016; Saarijärvi et al., 2014)

Emotional value considers one of the most crucial elements of human being – feelings. Maslow’s hierarchy of needs is the best explanation to the demand of awareness concerning hedonic values. (McLeod, 2017) As indicated in *Figure 8*, the economic and functional values in consumer value can be considered as the provision of basic needs. However, proceeding to the top of the pyramid are what significantly satisfy human beings. The emotional value resides at the level of belongingness and love needs. Therefore, neglecting the feeling of the consumer can severely damage the satisfaction rate, which also justifies the value magnifier and destroyer theory. (Khalifa, 2004; Wiedmann et al. 2009)

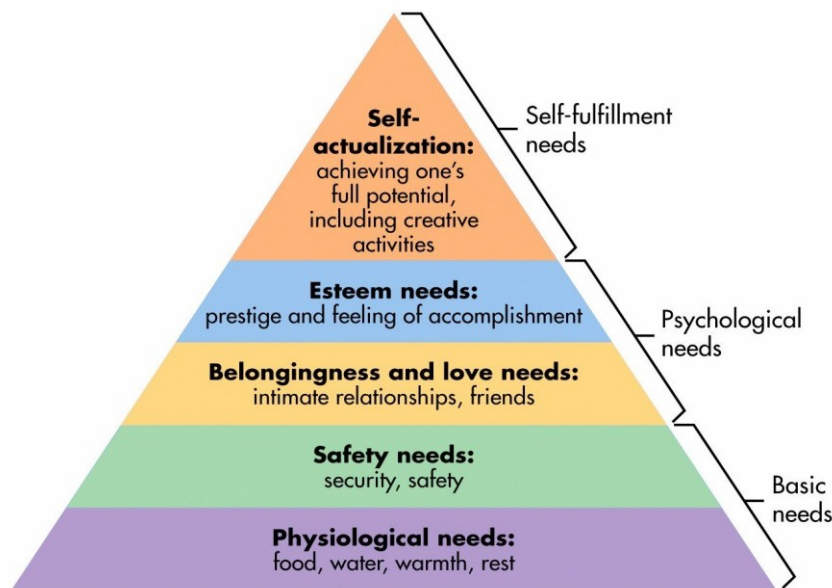


Figure 8 Maslow's hierarchy of needs (McLeod, 2017).

Continuing with the Maslow's hierarchy of needs, symbolic value represents the most desired demand – self-actualisation and esteem needs. Comparing with emotional value, which is more self-oriented, symbolic value relates more to the view and recognition from the others. Because human beings are social groups, the identity recognition from others is the most difficult to obtain, yet the most desired. Such ideology emerges clearly in the luxury industry. Considering the products in the luxury industry, the economic sacrifices only brings slightly-over-average utilitarian value. However, the recognition of “elite” identity is what the price consists of and also often the primary reason of a purchase decision. (Wiedmann et al., 2009)

Although the psychic value including emotional and symbolic values gained increasing attention in the business field and academy; there was no evidence that these two values play more important roles than the perennial economic and functional values. While in the luxury industry, the symbolic value is concentrated, in certain other industries, especially life necessities, function value is still the most desired element from the product. (Wiedmann et al., 2009)

2.5.3 Value Proposition

The traditional view of value creation is considered within the corporation, meaning that the company designs the product offering and delivers it to the market. Such aspect primarily focuses on the extrinsic value of the offering; however, in the contemporary business environment, there are companies without any tangible goods, instead, they provide services or devices for customers to use, allowing them to participate in the value creation process, thus, achieving the value co-creation. This is also known as the customer service logic. (Gummerus, 2013; Saarijärvi et al., 2013)

With the service logic in mind, it is of vital importance to involve consumers in the value creation process. Yrjölä (2014) suggests that to understand the value creation process, business model concept is the perfect departure. Initially, companies need to understand customer demands so that a vision can be created. Such information can be collected through market research and consumer feedbacks, from which they can also identify the primary value dimensions to make effective investment decision.

Consecutively, collection of customer demands may be the prerequisite to initiate a value creation process, however, it is the creating and capturing processes that ensure the effectiveness and the outcome. Creating value refers to the actualization and implementation of the perceived customer value by utilising different resources to answer the demand departing from different value dimensions. Customer value proposition (CVP) plays a critical role in explaining the fulfilment of demand to persuade customers to make the purchase decision. A customer value proposition is

“A competitive statement of the dimensions of value offered to a specific group of customers, the ways in which the firm creates value, and reasons for customers to select the firm’s offering.” (Yrjölä, 2015, 30)

In other words, CVP can be regarded as the way in which the company (or a product) communicates with customers.

Eventually, creating customer value unnecessarily equals to enterprise value, thus, various business models utilising different resources to profitably creating customer values are adopted to accomplish the transition. (Yrjölä, 2014) However, as consumer perspective is deployed for this research, the capturing process of value creation is not the primary foci. Instead, by understanding the nature of value and the value proposition, can we obtain a more comprehensive view of how mobile payment is perceived among consumers.

2.6 Synthesis of Theoretical Framework

Assembling the components together, a holistic research framework is established. As *Figure 9* indicates, the research framework is based on the technology acceptance model proposed by Davis (1989). In addition to the elements listed in the original model, we propose more precise variables in order to construct the hypotheses. The external variables are replaced by the consumer perspective in which we elaborate four components: age, gender, experience and cultural background. Moreover, the perceived usefulness transformed into the types of usage intentions concerning mobile payment, and we identify four categories – C2C transfer, C2B transfer, C2M transfer and Replacement of cash. Consecutively, we divide the perceived ease of use into technology proficiency and mobile device proficiency in order to align to the consumer research perspective. Lastly, the consumer attitude towards using was developed into the four dimensions, from which we can potentially observe correlations.

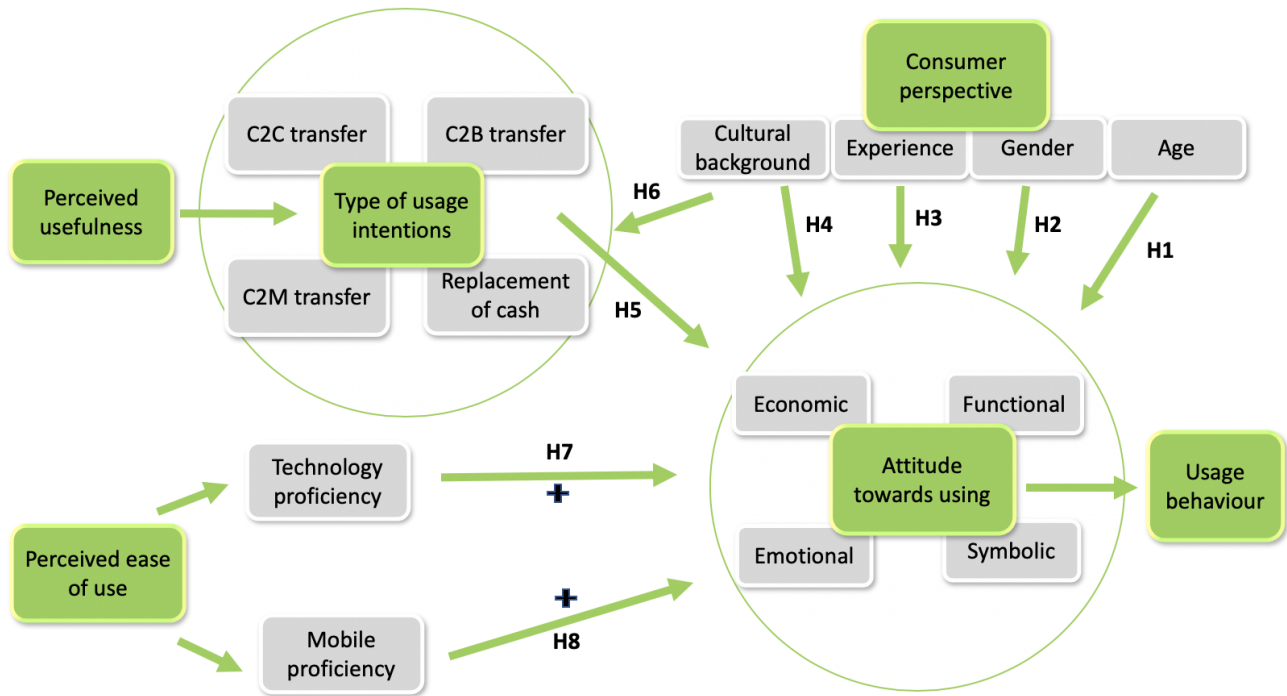


Figure 9 Theoretical Framework.

While we are developing upon TAM, several parts are discarded as the primary foci of the research is the consumer attitude, which is frequently referred as value perception in the paper. For example, the impact exerted by external variables on the perceived usefulness and perceived ease of use is eliminated with the exception of cultural background and the type of usage intentions, because consumer perspective is not completely identical to external variable, and the proposed hypothesis (**H6**) is the only relevant one to the topic. Additionally, the effect between the perceived ease of use and perceived usefulness is abandoned as it is not applicable after the division of both notions.

3 METHODOLOGY

3.1 Research Philosophy

Prior to the introduction of the selected research method, it is of vital importance to clearly state the research philosophy. According to Guba & Lincoln (1982), the research philosophy is the most fundamental brick of a research as it explains the belief and interpretation systems through which knowledge is produced. The perennial research philosophy includes positivism, realism, interpretivism and pragmatism. Respectively, they approach the world and product knowledge distinctively. For example, while positivism addresses the observable social reality and produce knowledge through generalisation, interpretivism focuses on the emotional and psychological factors of human to understand the social behaviours. (Chetty, 2016; GuhaThakurta, 2015)

In this particular research, we adopt realism, specifically critical realism. Realism, a strand of epistemology in research philosophy, refers to the disclosure of reality and knowledge through the scientific enquiry (GuhaThakurta, 2015). Within realism, there is the division of direct realism and critical realism. Direct realism views the world directly through the sensation and makes immediate judgement, whereas critical realism recognises what the sensation sees as merely a picture, not the reality. In other words, it probes deeper into the contextual and individual factors. (Chetty, 2016; GuhaThakurta, 2015)

The concept of the philosophy may be confusing; however, taking our research topic into discussion can mitigate the confusion. A direct realism research philosophy would address mobile payment directly through what consumers see and experience, such as the user interface and the different functions of the application. On the other hand, the critical realism lens would analyse how people perceive and form the concept of mobile payment gradually. Such ideology aligns seamlessly to the cross-cultural consumer behaviour perspective of the thesis, as we primarily focus on the perceived value propositions of mobile payment from various cultural groups instead of the designed value proposition from the service provider.

3.2 Research Approach

In order to test the hypotheses obtained from literature review, an adequate amount of data is necessary for implementing the analysis, thus, quantitative research method is selected. However, before we probe deeper into the justification of the method, it is worth mentioning that interviews were also adopted. Instead of generating data, interviews were mainly used to explore the exact research topic. It was designed in an informal structure, referring to open discussions regarding mobile payment, and there was no specific objective. Therefore, they are not mentioned in the chapter.

3.2.1 Quantitative and Qualitative Research

In academia, research is divided into two categories: quantitative and qualitative. Attributing to the individual context of each research, it is impossible to judge whether one is superior comparing to the other. However, both of them do have their distinctive characteristics and the appropriate application would significantly increase the effectiveness and efficiency of the research.

Qualitative research, as the name itself states, asks for the quality of the information. It does not imply how well the respondents answer the question, instead, it focuses on the depth and nuances of the information. Take mobile payment as an example, qualitative research would ask consumers to describe exactly what the main motives or reasons are for them to use such payment method. In addition, the previous experience, personal background, culture background and other contextualities are also recorded in qualitative research in a way that the almost identical conditions are depicted, and the researcher would get a direct access to the respondent's world. As a result, qualitative research is mostly exploratory research in the sense that methods are used to discover the unknown and to provide understanding to reasons, motivations and opinions behind the selected social phenomenon. Another function of qualitative research is to generate ideas and(or) hypotheses for future research. In fact, as mentioned in the beginning, it is also the mechanism used for this research. As for the data collection, due to the unpredictability of qualitative research, there is usually either semi-structured or unstructured form. Such distinctive forms would encourage the appearance of fresh ideas and authentic opinions. Typically, the qualitative research methods include interviews, group discussions, observation and ethnography. (Brians, Willnat, Manheim & Rich, 2014; DeFranzo, 2011; Maher & Dertadian, 2018; Nardi, 2018)

On the other hand, at the first glance of quantitative research, people usually associate the term with the size of the sample, or the numerical feature of the result; however, quantitative research is more rigorous. It can be considered as a ‘top-down’ mechanism in which a systematic lens is deployed to examine the selected social phenomenon. Initially, it starts with the research question derived from the social phenomenon, followed by possibility gathering stage where potential answers are gathered. Then, the actual research method acts in force to collect evidences (usually statistical support) to verify the validity of the selected answers. Eventually, it concludes, and, if the sample size is large enough, generalises the results. The traditional first impression of quantitative research would lead people to think that only numerical data can be used in quantitative research; but in fact, as long as the subject can be measured, quantitative research is applicable. For example, when the consumer’s attitude regarding mobile payment is considered as a research subject, a scale of one to six can be used to identify whether the person has positive or negative attitude towards it. Same can apply to other subjects such as opinions, behaviours and competences. (Brians et al., 2014; DeFranzo, 2011; Fallon, 2016; Nardi, 2018; Watson, 2015)

As a result, with the practical objective of this research being to testify the hypotheses formed in the previous chapter, quantitative research method is more suitable in this context because what we lack are the evidences to support the potential answers. Eventually, to reach an effective amount of primary data, (online)survey, amongst other quantitative research methods, is the selected option because of its low costs, extensive accessibility as well as low operational difficulty (Brians et al., 2014; Nardi, 2018).

3.2.2 Survey Research

Survey may be a common tool not only for researchers, but also companies, for example, when collecting customer feedbacks in order to improve their performances. However, the design of the questionnaire is of vital importance as the inappropriate survey design can significantly damage its effectiveness. A prime instance is the question type. Most of the respondents find open-comment questions time-consuming, thus, are reluctant to answer the entire survey. Such situation is more likely to occur when the survey is distributed through virtual channels with no social “pressure”; therefore, survey should be carefully designed and implemented according to the specific context. (Nardi, 2018; Punch, 2003)

Nardi (2018) illustrates how a research should be carried out from the initial stage of seeking ideas to the last stage of writing the report. He particularly focuses on survey research and provides a comprehensive framework which includes all necessary elements of a survey research. Therefore, we modify the framework as following:

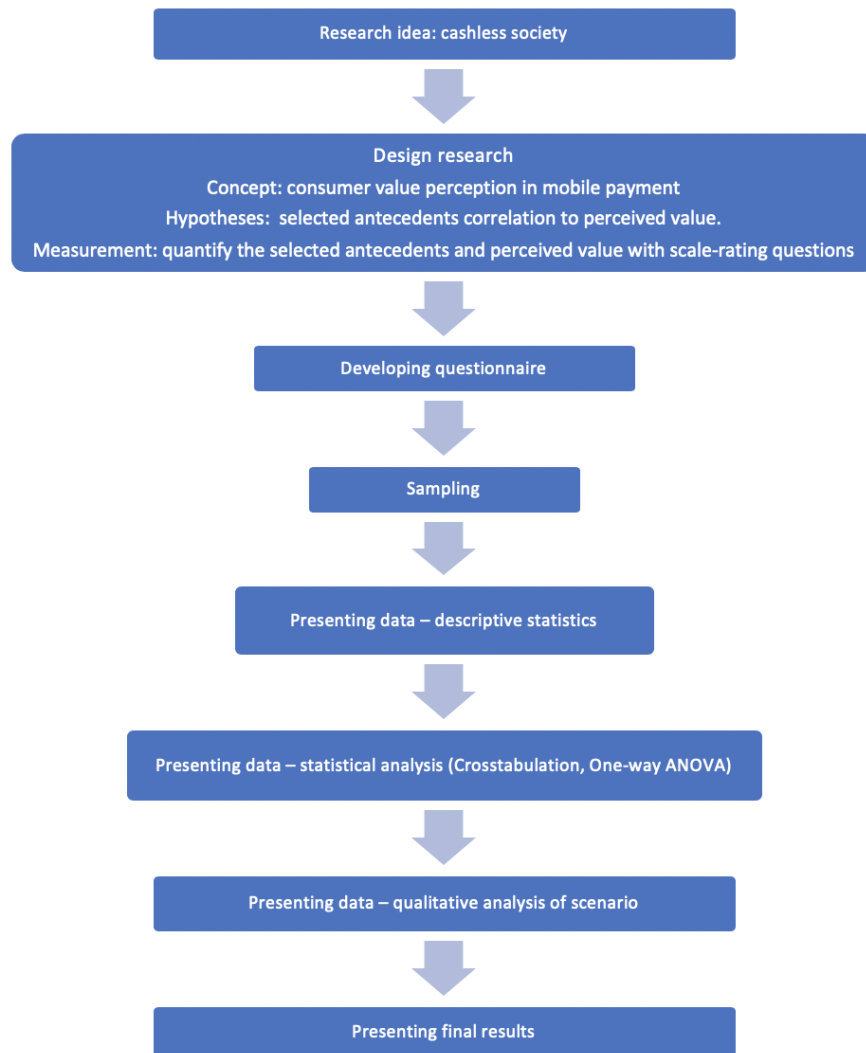


Figure 10 Processes of Conducting Survey Research (Adapted from, Nardi, 2018).

As indicated, Chapter one and Chapter two have already carried out the first and second step. However, the actual design of the questionnaire requires much more efforts. Initially, it is crucial to determine the format of the survey. The most common formats include self-administered questionnaire, online survey, telephone survey, and interviews. Each of them has its distinctive advantages and disadvantages. While telephone survey and interviews would obtain a higher response rate, they are usually time-consuming. Self-administered questionnaire, on the other hand, requires

more resources, and at the same time, has a low response rate; however, it is able to reach an enormous number of potential respondents. (Nardi, 2018)

Secondly, the revisit to the hypotheses is necessary in order to determine the content of the survey questions. As quantitative research demands, the subject in question should be measurable, thus, we should identify the variables in each hypothesis. Moreover, to obtain and to measure the desired data, different forms of questions are applied accordingly. Similar to survey formats, each question format has its strengths and weaknesses as well. When conducting a research in the field of social science, the combination of several question forms, sometimes even qualitative questions, is never unusual. The essence of designing the question is to grasp what exactly the desired information and variables are. For example, if the desired the information is the ownership of a mobile device and the variables are simply 'yes' or 'no', close-ended questions are capable and more efficient. (Nardi, 2018; Tolmie, Muijs & McAteer, 2011)

Furthermore, demographics, as one of the necessary elements to understand human behaviours, are usually included in the questionnaire. However, when designing the questionnaire, it is crucial to include only relevant and inoffensive demographical questions as they may repel respondents, thus, lowering the response rate. Eventually, technicalities such as format, section, use of language, and instructions are all necessary elements in a questionnaire. (Axinn, Link & Groves, 2011; Nardi, 2018)

The guideline provided by Nardi (2018) serves as a textbook for this research, however, as we are collecting information of perception of mobile payment from consumer perspective where subjectivity and contextuality are heavily involved, it would be more effective if we also infuse qualitative characteristics into the quantitative method in order to gather valuable and fresh ideas which are unable to predict. Therefore, the survey also features an empathy-based storytelling.

3.2.3 Empathy-based Storytelling

Empathy, for as long as it has been under the research scope, is a concept without a unified definition. Goldstein & Michaels (1985) conclude three different understandings of the term: the affective response to the emotion of other actors; the recognition and understanding of the emotion of other actors; and the combination of the previous two. Regardless of the definition, empathy requires one to put him- or herself into the context of the other actors to experience their authentic feelings.

The application of empathy in the research field often exist in the computer science, especially in AI (Artificial Intelligence) as it requires robots to simulate human behaviours while understanding human emotions. Boukricha & Wachsmuth (2011) consider the application of empathy-based emotional alignment would significantly enhance the social skills of virtual human. May it be in hard sciences or social sciences, the ideology behind empathy-based research approach is to simulate the identical context for one to fully understand the emotions and behaviours of the others. However, the component that can be manipulated by researcher is never fixed.

Empathy-based storytelling is the case that the research creates a scenario or story so that the target would have the opportunity to experience what may be unfamiliar or relatively new to them. Such model asks the person in question to step out from the original role and step into the role in the designed context. Consecutively, it is often followed by a query which asks for the thoughts, attitudes and opinions about the experience. Through empathy-based query, not only can the researchers understand the authentic feelings of respondents, but also can respondents effectively familiarise themselves with the research topic. Empathy theories believe that the best product/service comes from the understanding of what the users truly appreciate. (Altay & Demirkan, 2014; Fraquelli, 2015; Thomas & McDonagh, 2013) Therefore, combining the option of open-ended questions with the advantage of my personal experience enables the creation of the scenario regarding mobile payment. Therefore, empathy-based storytelling and query are perfect for collecting qualitative data in a quantitative survey.

3.3 Survey Description

As the core essence of the thesis is to analyse the perceived value propositions of mobile payment from the consumer perspective, it is crucial to collect data regarding what consumers think about mobile payment. Therefore, this survey is designed, constructed and distributed to collect these data. While the survey is distributed in Finland, it is also translated and distributed in China as it is one of the countries with the most mobile payment users (527.03 million in 2017 according to Statista.com). As the survey was designed in Google Forms, it is distributed virtually. The channel used are mixed, combining university channel, personal connections as well as social media platforms. However, most of the data came from the university channel, thus, the representativeness of the survey is limited.

The survey (See Appendix. 1) itself consists of four sections: demographic information and background questions; technology/mobile proficiency; consumer perceptions of mobile payment; and a scenario-based query. The selection of themes in the survey is expected to lead to fruitful insights on how consumers eventually perceive mobile payment and which factors might influence these perceptions.

Moreover, the survey contains mostly scale-rating questions referring to the level of agreement/disagreement to the provided statements. Additionally, there are multiple-choice questions with open ends in the demographic & background section as well as open answer questions in the scenario sections so that some qualitative data can be collected at the same time.

In the first section, the survey asks for general information such as age, gender, nationality and prior experience of mobile payment. Section 1 also collects additional information such as general perception of mobile payment, the most used function of mobile payment, and the main reason of not using it, if applicable to the participants. As we reviewed the key features and functions of mobile payment, it is possible to identify the major intention of use among consumers.

In the second section, the survey evaluates the technology and mobile proficiency level of the respondents. The confidence rating of the statements eventually yields a score that represents the proficiency level. The scale of the rating is from one to five, respectively referring to the lowest and highest proficiency score. The literature used to generate the statements are: Christensen & Knezek (2016); Boot et al. (2013); and Roque & Boot (2016). These articles provide general framework for assessing technology and mobile device proficiency level. Despite the contextual differences, the evaluation method is still valid with a few adjustments. Some of the statements come directly from the articles, while others are either modified and aligned to the context or are inspired by the ideas presented in the articles.

In the third section, the survey collects consumer perceptions of mobile payment by asking for the extent of agreement regarding provided statements. The statements are divided into four categories according to the four value dimensions (economic, functional, emotional, and symbolic) mentioned in the theoretical framework. However, it is not explicitly addressed in the survey so as not to bias the consumers.

Precisely, to assess the economic dimension, the monetary saving is the core element. Such element is extracted from literature review, the informal interviews as well as my personal experience in China. In terms of functional dimension, transparency, time-saving and accessibility are the concentrations. Because the survey departs from a consumer perspective, technical factors such as UI design are not specifically mentioned. However, they can be considered partly included in the “convenience” statement. Lastly, the core elements of emotional and symbolic dimensions are placed on a relatively general level due to the subjectivity of the two. The emotional value primarily concentrates on the experience and satisfaction level of consumers, while symbolic value focus on the recognition from the others, for example, deemed as ‘tech-fashionable’. Nonetheless, the scaling of these statements could still illustrate whether consumers perceive positive or negative value in these dimensions.

The scale of the rating was designed to vary from one to six intentionally, due to the subjective judgement involved. When the scale has no middle point, the respondents are forced to make a decision between positive and negative attitude so that more effective results can be gathered. The literature used to generate the statements are: Hampshire (2016); Kenya (2017); Rintamäki & Kirves (2017); Schierz et al. (2010) and Taylor (2016). All statements are generated in the same manner as in section two so that it would fit into the context of the research.

The last section is inspired by the empathy-based theory. Empathy-based research approach refers to the modelling which ask the person in question to step out from the original role and step into the role in the designed context (Altay & Demirkan, 2014; Thomas & McDonagh, 2013). Therefore, the survey provides a story which is created based on my personal experience in China, one of the most advanced countries in the mobile payment aspect. The essence of the story is to showcase the advantages of mobile payment and the benefits that it brings to individual level. The respondents would have the opportunity to “experience” how advanced mobile payment has evolved and progressed. Not only it illustrates some of the main functions of mobile payment such as C2B and C2C transfers, but it also delineates industries which are already associated with mobile payment. The respondents are asked to express their thoughts after reading the story. In addition, we also ask if people changed their previous perception after reading the reality-based story, and an open comment section is provided so that more qualitative data can be collected.

However, the survey distributed in China was designed slightly different from the original one. As mentioned in the survey description, the story presented in the last section of the survey was based on my personal experience in China, thus, delivering such story to Chinese respondents is

meaningless. As a result, the final section is replaced by open comments to the responses of other respondents. Precisely, it means that the answers to the story in the original survey were summarised and presented in the Chinese version as the final section, and Chinese respondents are asked to respond to what others said about mobile payment. The purpose of section is to spark novel ideas, and also compare the perceptions resulted from different culture.

3.4 Descriptive Statistics

Until 20th of November 2018, there were altogether 148 responses to the survey. The original survey file collected 120 responses, while the Chinese version added 28 more to the total sample.

3.4.1 Demographic

Firstly, as mentioned previously, the survey was distributed mostly among university students, thus, the largest age group of the sample was from 19 to 25 years old, accounting for 89.9% (133), while age range of the entire sample was from 19 to 44 years old. The respondents of the survey were mostly females, with the percentage of 70.3% (104), however, such result was not intended, meaning that we did not focus primarily on female consumers. Moreover, the diversity of culture background was evident from the result as America, Brazil, Germany, Spain, Russia, Italia, Czech Republic, Korea and many other countries all appeared. However, European (Finnish as the majority) respondents occupied the largest percentage (71.7%) of the total, followed by Chinese (20.9%). As the research was carried out in Finland, 'Finland' was taken out from the European group as a separate variable because of its large sample size of totally 47 respondents.

Secondly, the prior experience of the respondent was also measured. While everyone has heard about mobile payment, there were still 14.9% of the respondents who did not use mobile payment. China, as novel as it may seem, has a 100% usage percentage, and Chinese users had the most experience amongst all nationalities with an average usage time of over 4 years.

The general perceptions of mobile payment among respondents were time-saving, easy to use and convenient. Generally, the majority of people maintained a positive attitude towards mobile payment (70.9%), while 27.7% percent had rather mixed feeling, which means both the positive and negative

aspects were perceived. The remaining 1.4% had solely negative opinion regarding mobile payment, and the possibility of private information leakage as well as increasing difficulty to manage finance were the most common reasons mentioned by both ‘mixed-’ and ‘negatively- perceiving consumers.

As for the types of usage intentions, transfer to other people (C2C transfer) was the most popular option with a percentage of 43.2%. Other functions such as online payment, online shopping and pay at store (near-field transfer) were also popular as respondents mentioned that they were also frequently using these functions.

3.4.2 Technology/Mobile Proficiency

Generally, respondents were confident regarding their technology proficiency level. Only around 11.5% of the respondents were below the medium level of technology proficiency (score below 3). Amongst all culture groups, Chinese people were the most advanced in technology competence as only one person had average score lower than 3. In addition, the average score of technology proficiency of the entire sample was 3.72 out of 5.

The mobile device proficiency, comparing to technology proficiency, was even more advanced. The average score of the entire sample was 4.35 out of 5. There were only 6 respondents who obtained average score lower than 3. Such result could attribute to the design of mobile phone, especially smart phones, as they are designed to be user-friendly. Another reason could be the relatively simple functions carried out by mobile phones. Observing from the statements, it was clear that the skills required for computer and other technology devices were higher than what was required for mobile devices. Some of the respondents even mentioned in the open comment that “the statements in the mobile device proficiency are meaningless because they are really just the minimal skills”.

3.4.3 Consumer Perceptions of Mobile Payment

According to the survey, the majority of the respondents trusted mobile payment. (128, 86.5%). Specifically, most of Finnish respondents trusted mobile payments, and all Chinese respondents had positive perceptions regarding it; however, people who had negative perceptions about mobile payment came from the rest of the European countries.

The economic value of mobile payment was slightly recognised by the respondents. The average score yielded was only 3.58 out of 6. Approximately half of the sample believed that there was barely any economic value brought by mobile payment. As for functional values, it was highly recognised and appreciated. The average score for the functional value was 4.73 out of 6, which also matched with the results discovered in the earlier section where respondents have chosen time-saving and convenience as the general perceptions of mobile payment. Moreover, the results of emotional and symbolic values of mobile payment indicated unstable figure. Some of the statements were agreed by most of the respondents such as “it fits the lifestyle”; while other statements were rated evenly. Despite the average score of emotional value and symbolic value were 4.34 and 3.68 respectively, it could not delineate an overview, as the results were distributed at the extremes of the scale. Therefore, we assume that it indicates the subjectivity of these values; however, it would be also interesting to analyse whether there is any specific pattern.

3.5 Data Analysis

After the collection process and descriptive statistical summary, the gathered data was recoded and put into analyses. In order to obtain more profound knowledge, the data were exported to SPSS (Statistical Product and Service Solution). SPSS is a software platform used to produce advanced statistical analysis in addition to other functions such as data management and data documentation. It is often used by companies and researchers to achieve different purposes including ad-hoc analysis, prediction and hypothesis testing, which exactly fits the context of this research. (IBM SPSS software, n.d.) While there are numerous functions in SPSS, one-way ANOVA and Crosstabulation are deployed to test the hypotheses.

ANOVA, abbreviation of analysis of variance, is the data analysis function in SPSS to test whether two or more groups differ from each other based on one or more separate factors. The significance of the variance is indicated so that a hypothesis can be verified or declined. One-way ANOVA, belongs to the functional group, referring to the ANOVA test with only one independent variable. It is often used to identify whether there is a correlation between the two or more variables. However, the type of the relationship as well as which specific group leads to the difference are not presented in the ANOVA result output. (CompleteDissertation, n.d.; Statistichowto, n.d.)

Crosstabulation, as another frequently deployed analysis function in market research, is also adopted for this thesis. It divides the data into various categorical groups and tries to understand the correlation between these group if there is any. In the table, two or more categories are selected as the axis, and the number of responses which contains the characteristics are reported in the table. A prime example of crosstabulation is the pivot table in Microsoft Excel, and undoubtedly, SPSS contains such function as well. The main purpose of the function is to identify patterns, trends or any hidden probabilities which are unclear from the first glance at the data. Because of the categorisation and clear mapping of the data, crosstabulation is believed to require relatively loose data analytical skills and to mitigate the confusions while interpreting the data. In addition, it exposes valuable results which may not be numerically proved. For example, while numeric data analysis identifies correlation of variables, from crosstabulation, we can observe trends deriving from factors such as geographical locations and nationalities. However, the most evident demerit of the function is that not all the crosstabulations are meaningful, and only until it is carried out, one could define the correlation. (Aprameya, 2016; Qualtrics, n.d.; DeFranzo, 2011)

3.6 Methodological Limitation

It is undeniable that there is no completely perfect research practice, may it be because of the demerits of the selecting method, or the maloperation of the analysis. However, the identification of the limitations helps both readers and writers to recognise the flaws of the research so that the context, the sense of precautions as well as future developments are pre-planted. Although it is impossible to identify every limitation, some emergent ones were noted while conducting the research. As for this particular research, the limitations came from both the design of the survey and analysis, as well as the maloperation.

Initially, the common method bias problem came spontaneously when we deployed survey to measure various elements from the respondents. According to Schaller, Patil, & Malhotra (2015), the common method bias affects the observed relationship between the measured element, which can significantly sabotage the credibility of the results.

Secondly, the representativeness of the survey was problematic. Due to the restricted distribution channel, the respondents comprise mostly university students which led to a tremendous amount of data coming from the age group of 19-25. While the survey was not intended to be carried out among

millennials, the result was somewhat representative of this particular group. Moreover, because of the student identity, there were some evident features such as the restricted finance and relatively high mobile device proficiency which could alter the findings. Additionally, what we referred as ‘Western culture’ was represented by mostly Europeans with a significant percentage of Finnish. Therefore, it cannot be generalised to a broader context.

Consecutively, as mentioned previously, there were disadvantages of the selected analytical functions. For example, while the correlation of the two variables was proved, what types of correlation and which specific groups were not discovered from one-way ANOVA analysis. Furthermore, although one-way ANOVA and crosstabulation were employed, there are many more functions in data analysis, thus, the utilisation of the raw data was limited.

Eventually, my maloperations also posed threats to the validity of the research. Firstly, the language of the survey may convey a different message from the original intention, especially when translating it into Chinese language. Moreover, as mentioned before, the last section of the Chinese version asks for the response to the European thoughts regarding mobile payment. Although I have summarised the majority of the answers, nuances were not directly presented to the Chinese respondents. In a way, they were responding to my interpretations and translations of the original results, which may include deviations. Thirdly, the design of the question “Does the story change your perception of mobile payment? If yes, what are the major differences?” made itself invalid, because it did not take a comprehensive image into consideration. For example, when a respondent who genuinely knows about mobile payment and its benefit, and a respondent who does not trust mobile payment and believes that it damages the social value were presented with the question, the answer would both be “no”. Lastly, and most crucially, my personal subjectivity may have interfered the survey. Because mobile payment is a subject of my greatest interest, I may have intentionally embellished the benefits of mobile payment, especially in the empathy-based storytelling. Despite no persuasive words and exaggerating information were provided, the story itself was similar to a self-advertisement. The result, fortunately, yielded interesting comparisons in this section, however, my subjectivity may have also influenced other parts of the survey, and it may be even implemented unconsciously.

4 RESULTS

4.1 Statistical Analysis

The statistical analysis refers to the data analyses conducted in the SPSS, specifically One-way ANOVA and Crosstabulation. The titles of the subchapters are the names of the codified groups while conducting the data analyses, and they are respectively explained in each subchapter.

The remaining of the chapter presents all the valuable findings from the analyses; however, the analyses results indicated that neither the demographic status of consumers nor the prior experience of using mobile payment exerts any influence on the perceived value perceptions of mobile payment. Therefore, **H1** – The age of the consumers has an effect on their value perceptions of mobile payment, **H2** – The gender of the consumers has an effect on their value perceptions of mobile payment, and **H3** – The length of prior experience of using mobile payment has an effect on consumers' value perceptions regarding mobile payment, were not supported.

For **H1**, we believe the negative result came from the limitation of the research. Because the age distribution of the sample was centred to the group of 19-25, the opinions were likely to be somewhat similar to each other. The minimal age difference between respondents also made the grouping process difficult, which potentially affected the result output. The null result of **H2**, on the other hand, was surprising to us as there are already existing research concerning the hypothesis. For example, Liébana-Cabanillas et al. (2014) carry out a research on the potential influence of gender on users' acceptance and adoption of mobile payment in the country where no such system exists. The results indicated that male and female users have significantly different perceived usefulness and ease of use, attitudes and intentions to use mobile payment. We suspect that while there was no indication of direct effect between gender and value perceptions, indirect influence may still exist. In addition, the concentration of age distribution can affect the result **H2** as well.

As for the insignificant results of **H3**, we attribute it to the survey design flaws. Because of the unclear specification of time dimensions in the question which collects the information regarding the prior experience of mobile payment usage, many of the answers were deemed invalid because the input

from respondents were ambiguous, such as “some months”, “very long” and “some years”. Therefore, from our perspective, **H3** should be regarded as null.

4.1.1 Crosstabulation

4.1.1.1 Crosstabulation – Nationality and Consumer General Attitude towards Mobile Payment

The crosstabulation conducted was to analyse whether there is a connection between the nationality of the consumer and their general attitudes towards mobile payment, thus, testifying **H4** – The cultural background of consumers has an effect on their value perceptions of mobile payment. As mentioned, the respondents of the survey came from various cultural backgrounds, thus, the recodification was necessary. We selected the countries with the most respondents, namely Finland and China, as individual groups. The remaining was divided into ‘Europe’ (excluding Finland) and ‘Others’. In addition, due to the small amount of data in ‘Others’ being unable to produce any meaningful result, it was not discussed in the research. As for the attitude, the result came from the perceived benefits and demerits chosen by the respondents. Because the question in the survey was multiple choice question, thus, the general perception towards mobile payment can be mixed as well.

Table 1 Crosstabulation (chi-square) Nationality and General Perception.

Nationality * What is your general perception of mobile payment application? Crosstabulation

			What is your general perception of mobile payment application?			Total
			positive	negative	mixed	
Nationality	Finland	Count	38	2	7	47
		% within Nationality	80.9%	4.3%	14.9%	100.0%
	China	Count	26	0	5	31
		% within Nationality	83.9%	0.0%	16.1%	100.0%
	Europe	Count	33	0	26	59
		% within Nationality	55.9%	0.0%	44.1%	100.0%
	Others	Count	8	0	3	11
		% within Nationality	72.7%	0.0%	27.3%	100.0%

Total	Count	105	2	41	148
	% within Nationality	70.9%	1.4%	27.7%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17.544 ^a	6	.007
Likelihood Ratio	17.874	6	.007
N of Valid Cases	148		

a. 5 cells (41.7%) have expected count less than 5.
The minimum expected count is .15.

Table 1 above illustrates the distribution of general attitudes of consumers (respondents) across different nationalities. As can be observed from the picture, Finnish and Chinese had mainly positive attitude towards mobile payment, accounting for 80.9% and 83.9% respectively. ‘Europe’, on the other hand, held an equally amount of positive and mixed attitude. Based on the figure, it is justified to assert that Finnish and Chinese people are advanced in the progress of cashless society. Such phenomenon may attribute to the unique cultural influence, national economy, the banking industry supporting mobile payment, as well as the availability of application options in the market; however, the key determinant remains unknown.

Secondly, amongst 148 valid answers, there were only two who had mere negative perceptions regarding mobile payment. The result indicated that the acceptance intention and behaviour of mobile payment was high at a general level. Therefore, mobile payment as a product/service offering has great potential to stimulate cashless society.

Lastly, based on the data analysis, consumers, albeit with their generally high acceptance of mobile payment, recognised demerits of the offering as there were respondents with mixed feelings in every nationality segment. According to the descriptive statistic, there were 14.9% (22) of the respondents who did not use mobile payment. Collectively, it was convincing that 20 respondents recognise the demerits more than the advantages of mobile payment. Concluding the results from the analysis, we assert that **H4** is valid. There is a connection between the nationality and the general perceptions of mobile payment, and it was especially evident in ‘Finland’ and ‘Chinese’.

4.1.1.2 Crosstabulation – Nationality and Consumer Most-used Functions

To verify **H6** – The cultural background of consumers has an effect on the type of usage intentions of mobile payment, the crosstabulation between respondents' nationality and their most-used functions of mobile payment was conducted. The nationalities of respondents were codified in the same approach as the previous analysis. The functions provided for selection in the survey come from the theoretical review in Chapter two. 'C2C' transfer refers to the transfer between consumers and consumers. A prime example is the money transfer carried out through mobile device between friends. 'Online payment' refers to the transfer between consumers and businesses. Common situations are payment for the utility bills, phone bills and rent. Thirdly, 'online shopping', as the term states, covers the payment carried out through mobile devices dedicated to the purpose of personal shopping. Lastly, 'pay at store' is using mobile pay, may it be near-field transfer or scan-the-QR transfer, to replace cash.

Table 2 indicates percentages of the most-used functions of mobile payment according to different nationalities. Amongst 128 valid responses, 'C2C transfer' was the most popular (50%) choice across all functions, especially among Finnish (85.7%) and other Europeans (54.3%).

Table 2 Crosstabulation(chi-square) Nationality and Most-used Function of Mobile Payment.

Nationality * ...and what do you use it for the most? Crosstabulation

			...and what do you use it for the most?				Total
			c2c transfer	online payment	online shopping	pay at store	
Nationality	Finland	Count	36	3	2	1	42
		% within Nationality	85.7%	7.1%	4.8%	2.4%	100.0%
	China	Count	1	3	10	17	31
		% within Nationality	3.2%	9.7%	32.3%	54.8%	100.0%
	Europe	Count	25	7	7	7	46
		% within Nationality	54.3%	15.2%	15.2%	15.2%	100.0%
	Others	Count	2	3	3	1	9
		% within Nationality	22.2%	33.3%	33.3%	11.1%	100.0%

Total	Count	64	16	22	26	128
	% within Nationality	50.0%	12.5%	17.2%	20.3%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	65.543 ^a	9	.000
Likelihood Ratio	71.955	9	.000
Linear-by-Linear Association	5.818	1	.016
N of Valid Cases	128		

a. 5 cells (31.3%) have expected count less than 5.

The minimum expected count is 1.13.

Chinese people, on the other hand, had a different usage pattern comparing to consumers from other countries. ‘Pay-at-store’ was the most used (54.8%) function for Chinese people, while it was the least used functions for ‘Finland’, ‘Europe’ and even ‘Others’ groups. Such result reflects the advancement of mobile payment and verifies the facts in the background section. Currently in China, QR codes can be found everywhere, may it be large shopping centres or merely a kiosk. As mentioned in the beginning of the thesis, mobile payment has also penetrated various industries including transportation, restaurant, retailing as well as sharing economy platforms. In other words, mobile payment is available and accessible in every corner in China. Therefore, whether it is voluntary, using mobile payment to replace cash is inevitable in China.

Additional, ‘online shopping’ was also frequently used by Chinese. A possible explanation is the success of Alibaba, the world’s largest e-commerce and retail company. In fact, Alipay is also the product of the conglomerate, thus, Alibaba is considered as the pioneer of cashless society in China, and a strong promoter in the global context.

To summarise this analysis, it is warranted that there is a connection between the nationality of consumers and their most-used function of mobile payment as Chinese people obviously had different behaviour patterns comparing to the others. The assumed reason is the market options and cluster support in China; however, the validity of the assertion requires empirical evidences.

4.1.1.3 Crosstabulation – Consumer Most-used Functions and Consumer General Perception of Mobile Payment

The crosstabulation below shows the counts of the general perceptions based on the respondents' most-used the function of mobile payment. Terms used in the analysis were codified in the same manner as in the previous two analyses.

Table 3 Crosstabulation (chi-square) Most-used Function*General Perception of Mobile Payment.

What is your general perception of mobile payment application? * ...and what do you use it for the most? Crosstabulation

			...and what do you use it for the most?				Total
			c2c transfer	online payment	online shopping	pay at store	
What is your general perception of mobile payment application?	positive	Count	51	12	14	23	100
		% within ...and what do you use it for the most?	79.7%	75.0%	63.6%	88.5%	78.1%
	mixed	Count	13	4	8	3	28
		% within ...and what do you use it for the most?	20.3%	25.0%	36.4%	11.5%	21.9%
Total		Count	64	16	22	26	128
		% within ...and what do you use it for the most?	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.511 ^a	3	.211
Likelihood Ratio	4.448	3	.217
N of Valid Cases	128		

- a. 2 cells (25.0%) have expected count less than 5.
The minimum expected count is 3.50.

Observing from *Table 3*, it is clear that regardless of which function was used by consumers, there were positive values identified anyway as there was no respondent with solely negative perception of mobile payment. Secondly, according to the data, it was evident that people who use ‘pay at store’ functions recognise mostly positive values from mobile payment, with a satisfaction rate of 88.5%. Following ‘pay at store’, ‘C2C transfer’ and ‘online payment’ also yielded high satisfaction rates of 79.7% and 75% respectively. In addition, despite an acceptable satisfaction rate of 63.6% among ‘online shopping’ group, they were more likely to experience mixed feeling comparing to the others.

Because of the options listed in the survey, the negative part of mixed feeling came from the insecurity of using mobile payment. Comparing to other functions, ‘online shopping’ indeed has higher risks. Liable parties are easily identified in the ‘C2C transfer’, ‘online payment’ and ‘pay at store’ as they are either people of whom the consumer knows, or ‘authorised’ parties such as property agencies, registered operators, or physical supermarkets. Online shops, on the other hand, are difficult to be deemed responsible because of the relatively lax control and their intangibility, which potentially leads to scams and personal data leakage. Consequently, consumers who frequently use online shopping function are more likely to have mixed perception towards mobile payment comparing to others.

However, the Chi-square test indicates null results which contradict to our observation. We suspect that the differences in between the general perception and most-used function was relatively small, and the division of value dimensions would assist further in proving the validity of **H5** – The type of usage intentions of mobile payment has an effect on the value perceptions of mobile payment.

4.1.2 One-way ANOVA – Type of Usage Intentions

In order to further test **H5**, we conducted One-way ANOVA between each function of mobile payment and different value dimensions. In this subchapter, we primarily focus on the ‘sig’ number as it refers to the significance level. If the score is lower than 0.05, the effect in hypotheses can be confirmed (Laerd, n.d.).

The function terms used in the ANOVA analysis was similar to what was used in crosstabulation analysis. However, each function was added with ‘-ornot’, which made the function a variable to the analysis. Respondents who have chosen certain functions were separated from the remaining, thus, enabling the verification of the effect on value dimensions exerted by the choice of most-used functions.

Moreover, as mentioned in the descriptive statistics, there were average scores of each value dimension, and such score can be also calculated to the spectrum of individual respondents in order to enable the analysis. As a result, ‘EcoVmean’, ‘FuncVmean’, ‘EmoVmean’ and ‘SybVmean’ respectively refers to the average score of each value dimensions (Economic, functional, emotional and symbolic). Additionally, there are two versions of total score, one being the average total score of the four value dimensions (‘total value without general trust’), and the other being the average total score of the four value dimensions plus the general trust level (‘total value with general trust’).

Finally, ‘online payment or not’ was not included in the remaining chapter because: 1). The sample size of the group was small; thus, no meaningful result could be produced; and 2). No indication of effect was supported by the data.

4.1.2.1 C2C Transfer Chosen as the Most-used Function or not

Table 4 presents the results of the One-Way ANOVA conducted with the variables of “C2Cornot” and each mean numbers of consumer value perceptions. The figure indicates that there is a significant difference between respondents who use C2C transfer or not on their values perceptions. Specifically, economic, symbolic and overall values were influenced by whether the consumer uses C2C transfer or not. While the same analysis was conducted on functional and emotional values, no significant data was yielded, thus, they were eliminated in the table.

*Table 4 One-way ANOVA – C2Cornot*Consumer Value Perception.*

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
EcoVmean	Between Groups	23.456	1	23.456	12.098	.001
	Within Groups	283.071	146	1.939		

	Total	306.527	147			
SybVmean	Between Groups	26.471	1	26.471	12.938	.000
	Within Groups	298.714	146	2.046		
	Total	325.185	147			
total value without general trust	Between Groups	8.793	1	8.793	8.020	.005
	Within Groups	160.076	146	1.096		
	Total	168.870	147			
total value with general trust	Between Groups	4.515	1	4.515	4.424	.037
	Within Groups	148.992	146	1.020		
	Total	153.507	147			

At the first glance, it may seem surprising that there was no effect on functional value proved by the analysis; however, the result shown in ANOVA only testify the existence of effect instead of the level of functional value. In other words, the absence of effect does not necessarily assert that consumers who use C2C transfer perceive less functional values from mobile payment. According to such logic, it is possible to assume that utilitarian values were perceived well amongst all functions, thus, there was no significant difference. However, the validity of the assumption requires more precise analysis and statistical evidences.

4.1.2.2 Online shopping Chosen as the Most-used Function or not

Table 5 indicates the results produced by the One-way ANOVA conducted with whether consumer use online shopping the most or not and their value perceptions of mobile payment. The operation was in identical manner as the previous one. The figure features all the correlated value dimensions. Functional value, on the other hand, was left out due to the insignificant result found.

Table 5 One-way ANOVA – Online shopping or not*Consumer Value Perception.

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
EcoVmean	Between Groups	19.715	1	19.715	10.036	.002

	Within Groups	286.812	146	1.964		
	Total	306.527	147			
EmoVmean	Between Groups	7.562	1	7.562	4.554	.035
	Within Groups	242.435	146	1.661		
	Total	249.997	147			
SybVmean	Between Groups	22.045	1	22.045	10.617	.001
	Within Groups	303.141	146	2.076		
	Total	325.185	147			
total value without general trust	Between Groups	10.393	1	10.393	9.575	.002
	Within Groups	158.477	146	1.085		
	Total	168.870	147			
total value with general trust	Between Groups	7.060	1	7.060	7.039	.009
	Within Groups	146.446	146	1.003		
	Total	153.507	147			

First of all, the absence of effect between the function and utilitarian value in the analysis strengthened the argument that utilitarian value was perceived well amongst all functions. However, what differed from 'C2Cornot' was that emotional value was influenced by whether consumer uses online shopping the most. The fundamental reason behind could be the insecurity mentioned in the previous chapters. As scams and other cyber risks existing in the virtual environment, the occurrence of these possibilities would significantly affect the satisfaction rates of consumers, thus, creating emotional fluctuations. In addition, according to the crosstabulation analysis between most-used function in mobile payment and consumers' general perceptions, it is logical to assume that the correlation effect between 'online shopping or not' and the emotional value is negative, meaning that when consumer use online shopping the most, they are likely to perceive lower emotional value from mobile payment and vice versa.

4.1.2.3 Pay-at-store Chosen as the Most-used Function or not

Table 6 illustrates the results of the one-way ANOVA conducted with the variables 'pay-at-store or not' and mean numbers of perceived value in the same approach as the previous two. According to the figure, all value dimensions and the overall perception are influenced by whether they use mobile payment to replace the function of cash or not.

Table 6 One-Way ANOVA – Pay-at-store or not*Consumer Value Perception.

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
EcoVmean	Between Groups	48.955	1	48.955	27.750	.000
	Within Groups	257.572	146	1.764		
	Total	306.527	147			
FuncVmean	Between Groups	22.458	1	22.458	23.846	.000
	Within Groups	137.500	146	.942		
	Total	159.958	147			
EmoVmean	Between Groups	55.695	1	55.695	41.849	.000
	Within Groups	194.302	146	1.331		
	Total	249.997	147			
SybVmean	Between Groups	52.644	1	52.644	28.201	.000
	Within Groups	272.541	146	1.867		
	Total	325.185	147			
total value without general trust	Between Groups	43.739	1	43.739	51.034	.000
	Within Groups	125.130	146	.857		
	Total	168.870	147			
total value with general trust	Between Groups	41.088	1	41.088	53.362	.000
	Within Groups	112.419	146	.770		
	Total	153.507	147			

Comparing to the other two functions, ‘pay-at-store’ was the only variable exerting effect on the functional value perception of mobile payment. Moreover, as can be observed from the data, the significance was at its peak, which means there was dramatic differences between consumers who use ‘pay-at-store’ the most and the others. Combining with the crosstabulation and descriptive statistics, it was evident that the majority of the ‘pay-at-store or not’ group was Chinese, and their average usage time of mobile payment was over four years. Furthermore, China has been mentioned several times being the pioneer of using mobile payment and progressing towards a cashless society. Therefore, it is obvious and reasonable to declare that Chinses people have different perception

regarding mobile payment, and we courageously assume that their value perception of mobile payment is extremely high, not only because of all the background information and extreme figures in the analysis, but also the existence of effect on functional value as it might be the only logical explanation to such odd result.

Eventually, regardless of the novel nuances in each analysis, we have found significant correlation between the types of usage intentions and the customer value perceptions, thus, supporting **H5**.

4.1.3 One-way ANOVA - Technology & Mobile Device Proficiency

Ease of use has been one of the key determinants in consumer's perceptions regarding mobile payment; however, the level of easiness is spontaneously related to their proficiency in using such technology. Therefore, we conducted One-way ANOVA with technology and mobile device proficiency with consumers' value perceptions of mobile payment. As mentioned in the survey design, statements were used to collect scores which represent the proficiency level of respondents. Consecutively, we used mean values of proficiency scores as well as of each value perception scores to implement the analyses. To interpret the presented result, we focus on the 'sig' value to observe the existence of correlation between two variables.

Table 7 and Table 8 illustrate the ANOVA results conducted with technology proficiency and mobile device proficiency respectively. As can be observed from the tables, the results were almost identical, signalling the validity of **H7** – The technology proficiency level of consumers has a positive effect on their value perceptions of mobile payment, and **H8** – The mobile device proficiency level of consumers has a positive effect on their value perceptions of mobile payment. However, only the economic value and the overall value perceptions of mobile payment were correlated with the technology and mobile device proficiency level of consumers. Functional value, on the contrary, was far from having any correlation with the two proficiency levels.

*Table 7 One-way ANOVA – Technology Proficiency*Consumer Value Perceptions.*

ANOVA				
Sum of Squares	df	Mean Square	F	Sig.

EcoVmean	Between Groups	85.271	22	3.876	2.190	.004
	Within Groups	221.256	125	1.770		
	Total	306.527	147			
total value without general trust	Between Groups	45.118	22	2.051	2.071	.007
	Within Groups	123.752	125	.990		
	Total	168.870	147			
total value with general trust	Between Groups	41.504	22	1.887	2.105	.006
	Within Groups	112.003	125	.896		
	Total	153.507	147			

Table 8 One-way ANOVA – Mobile Device Proficiency*Consumer Value Perceptions.

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
EcoVmean	Between Groups	84.454	19	4.445	2.562	.001
	Within Groups	222.073	128	1.735		
	Total	306.527	147			
total value without general trust	Between Groups	37.177	19	1.957	1.902	.019
	Within Groups	131.693	128	1.029		
	Total	168.870	147			
total value with general trust	Between Groups	35.827	19	1.886	2.051	.010
	Within Groups	117.680	128	.919		
	Total	153.507	147			

The logic behind such results was somewhat ambiguous. Firstly, the fact that only economic value had a correlation with technology/mobile device proficiency of consumers was contradictory to the correlation between overall perception and the two proficiency levels. One potential explanation is that the effect of correlation was significant enough to alter the overall score, which from my personal

perspective, is unlikely. However, sig. valued of 'SybVmean' was close to the valid level, which might exert influence on the overall score.

In addition, we would assume that the proficiency level of technology/mobile device had drastic impact on the functional value and emotional value of mobile payment, as they would most likely to lead to less effort investment and higher satisfaction rate. The results, on the other hand, indicated the completely opposite, with the least significances of correlation with functional and emotional values.

In order to explain the result, we propose two assumptions. Referring to the descriptive data, respondents acquired high level of technology proficiency (averagely 3.72) and mobile device proficiency (averagely 4.35). Therefore, most of the respondents maintained high level of both proficiency scores, and there were only slight differences between respondents. Consequently, such minor difference was not significant enough to cause any visible effect on the variables in question, and the correlations found in economic value and overall value perceptions were merely coincidences.

The other explanation is the invalidity of the statements used in the survey. As mentioned, some respondents specifically expressed in the open comments that the content of statements used in technology and mobile device proficiency test section were too simple and meaningless, and they considered them as the minimal skills to have regarding technology and mobile devices. Additionally, the design of the statement may be adjusted to fit in the research context; however, they were not designed to signal any value dimensions, which may result in the imprecision, and eventually leading to the null result of the analysis. However, may it be the insignificant difference in proficiency levels or the invalidity of survey questions, practical and statistical evidences are needed to support the assumption.

4.1.4 One-way ANOVA - Cultural differences

Observing from the crosstabulation, it was evident that there were connections between the nationality of consumers and their value perceptions regarding mobile payment. The ANOVA further indirectly proved that there was certain correlation between the nationality and consumers' value perceptions as the analysis conducted with respondents who use 'pay-at-store' the most (Chinese consumers) indicated distinctive result. Therefore, it is crucial to probe deeper into the cultural perspective.

Table 9 presents the One-way ANOVA conducted on whether the different cultural backgrounds would affect the technology proficiency, mobile proficiency, the four value dimensions and the total value of mobile payment. The respondent data was categorized into four different cultural groups: Finland, China, European (excluding Finland) and others. However, the scale of “other” group (11 respondents) was significantly smaller comparing to other groups due to the manner in which the survey was distributed and recoded. The results have shown that there was a correlation between the cultural background and all of the selected variables except the mobile device proficiency, which was eliminated from the table.

Table 9 One-way ANOVA – Nationality*Technology Proficiency, Mobile Device Proficiency, and Consumer Value Perception.

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Technology Proficiency mean	Between Groups	6.840	3	2.280	5.617	.001
	Within Groups	58.452	144	.406		
	Total	65.293	147			
EcoVmean	Between Groups	121.849	3	40.616	31.670	.000
	Within Groups	184.678	144	1.282		
	Total	306.527	147			
FuncVmean	Between Groups	34.466	3	11.489	13.183	.000
	Within Groups	125.492	144	.871		
	Total	159.958	147			
EmoVmean	Between Groups	62.523	3	20.841	16.008	.000
	Within Groups	187.474	144	1.302		
	Total	249.997	147			
SybVmean	Between Groups	77.447	3	25.816	15.006	.000
	Within Groups	247.738	144	1.720		
	Total	325.185	147			
total value without general trust	Between Groups	68.048	3	22.683	32.397	.000

	Within Groups	100.822	144	.700		
	Total	168.870	147			
total value with general trust	Between Groups	62.081	3	20.694	32.594	.000
	Within Groups	91.426	144	.635		
	Total	153.507	147			

Such results were no surprise as the existence of correlation was testified in previous analyses. Regarding the absence of correlation between nationality and mobile device proficiency, we assert that mobile device nowadays is nearly life necessity product as it has penetrated into every aspects of human beings. Therefore, the mastery of such device is spontaneous and easy. Moreover, mobile devices are designed towards being increasingly user-friendly, which significantly decreases the difficulty of learning the device. Lastly, the statements used in the survey may test merely the basic skills required to use a mobile device, thus, resulted in the ubiquitous high score of mobile device proficiency of all respondents and minimised differences.

The One-way ANOVA may provide evidences of correlation between nationality of consumers and various variables; however, nuance differences between nationality groups remained unclear. Therefore, apart from the one-way ANOVA, the analysis also provided results from Scheffe's method which compares all options in the factors in pairs so that a clear view can be depicted to showcase which two options (cultural groups) have significant differences. The result indicated that Finland, China and Europe groups had distinctive difference between each other. However, despite there were some findings between the Others group and the remaining, due to the small size of the sample group, they were not considered.

4.1.4.1 Technology Proficiency

Table 10 illustrates the result output of Scheffe's method analysis conducted with nationality and technology proficiency. In order to identify valuable differences, we focus on the 'sig' value in the same manner as in One-way ANOVA, meaning that any number below '0.05' signals critical significance, thus, proving the existence of difference between the two nationality groups.

Table 10 Edited Scheffe's method (Factor: Nationality; Variable: Technology Proficiency).

Multiple Comparisons

Dependent Variable	(I) Nationality	(J) Nationality	Mean Difference (I-J)	Std. Error
Technology Proficiency mean	Finland	China	-.56778*	.14741
	China	Finland	.56778*	.14741
		Europe	.49173*	.14133
	Europe	China	-.49173*	.14133

*. The mean difference is significant at the 0.05 level.

Observing from the figure, it is obvious that there were significant differences between ‘China’ and other cultural groups. However, as the correlation between nationality and technology proficiency level was not the primary foci of the research, it is not discussed in the thesis, but could potentially provide a path for future research.

4.1.4.2 Value dimensions

Table 11 below delineates the result output of Scheffe’s method analysis carried out with nationality and all the value perceptions related variables. Indicated data signalled the significant differences, while other insignificant results were left out. According to the result output log, it was proven that there were evident distinctions between Chinese consumers and other consumers coming from different cultural backgrounds in all value dimensions.

Table 11 Edited Scheffe’s method (Factor: Nationality; Variables: Value Dimensions and Total Value Perception).

Multiple Comparisons

Scheffe

Dependent Variable	(I) Nationality	(J) Nationality	Mean Difference (I-J)	Std. Error
EcoVmean	Finland	China	-2.27488*	.26203
	China	Finland	2.27488*	.26203
		Europe	2.15227*	.25121
FuncVmean	Finland	China	-1.17124*	.21599
	China	Finland	1.17124*	.21599
		Europe	1.15186*	.20708
EmoVmean	Finland	China	-1.39602*	.26400

	China	Finland	1.39602*	.26400
		Europe	1.72298*	.25311
	Finland	China	-1.62114*	.30348
SybVmean	China	Finland	1.62114*	.30348
		Europe	1.89557*	.29096
	Finland	China	-1.61582*	.19360
total value without general trust	China	Finland	1.61582*	.19360
		Europe	1.73067*	.18561
	Finland	China	-1.45148*	.18436
total value with general trust	China	Finland	1.45148*	.18436
		Europe	1.69662*	.17675
	Finland	China	-1.45148*	.18436

*. The mean difference is significant at the 0.05 level.

Such result, overlapping with what we discovered in previous analyses, confirmed the significant value perception differences between Chinese and the others. Specifically, we speculate that Chinese consumers perceived higher economic value than others. As mentioned, Alibaba, the world's largest e-commerce and retail company, provides numerous options covering all industries such as food, textile, electronics and even machineries with competitive pricing. Not only Alibaba benefits the B2B aspect, its subsidiary e-commerce platform Taobao also touches consumers directly. (Alibabagroup, n.d.) In addition, deriving from Alipay, the industry leader in mobile payment, food delivery industry blossomed during the recent years. Food delivery apps such as Meituan and Ele are ubiquitously downloaded and used by almost everyone in China not only because of its time-saving and convenient features, but also its competitive prices offered exclusively in these channels.

While such application may also exist in European market, their product offering is more utilitarian-oriented. *Figure 11* illustrates the examples of Chinese food delivery app Ele and Foodora. From Ele, customers are able to receive different discounts designed by the restaurant. In addition, they can also receive coupons used on the platform through the 'lucky draw' from every order placed. On the other hand, Foodora merely displays the product options from the restaurant and the delivery time. No special offers or discounts are provided to the customer. Therefore, food delivery applications, as one of the most frequently used applications in China, provide remarkable economic value to consumers.

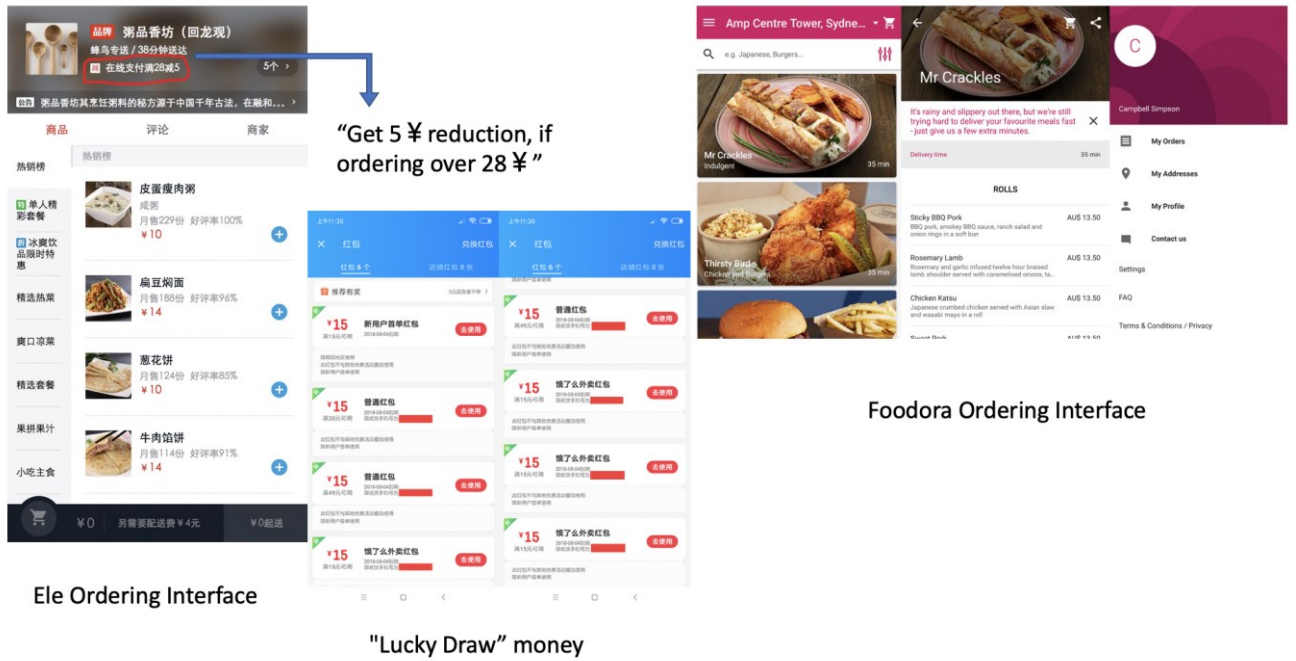


Figure 11 Example of Ele and Foodora (qqfius.com., 2018; csdn.net. 2017; Miltok, 2016).

As for the utilitarian value, we also argue that Chinese people perceived higher value than other cultural groups. Apart from the convenient mobile payment and the derived services which bring tremendous benefits to consumers' daily lives, the integration of utility payment and mobile payment into the social application significantly increases the functional value of mobile payment.

In terms of emotional and symbolic values, despite of the difference between Chinese and European consumers (including Finland), it was difficult to claim which group had higher value perceptions as these two value dimensions were subjective and influenced by the context. According to the survey, statements designed to collect scores regarding perceived emotional value primarily concentrated on the experiential factors such as the satisfaction level and their lifestyles. Statements regarding symbolic value, on the other hand, collected information regarding the identity might be given by others including 'fashionable', 'cool', 'master of technology' and 'pioneer in the trend'. Respectively, we suggest that Chinese respondents perceived higher emotional value, but lower symbolic value comparing to other user groups because mobile payment was, to some extent, no fascinating innovation because of its ubiquity in China.

In addition to the presented findings, it took no time to discover that, while Chinese respondents had distinctive perceptions comparing to others, there was no difference uncovered between 'Finland'

and ‘Europe’. There are two possible explanations behind such result. The first one is the malfunction of the group ‘Europe’. As mentioned, respondents came from various countries, and many European countries were recorded as well. However, the recodification of the sample ignored the uniqueness of each country. For example, German nowadays still uses cash as their primary payment method, but because of the small scale of sample size, its unique feature did not emerge in the result output. The other explanation is that despite the relatively advancement in cashless society progress, Finland is still similar to other European countries because of their geographical locations and the commonly shared laws and regulations which, to some extent, fostered the common core value. Therefore, in order to distinguish between European countries, a focused lens and a dedicated sample need to be deployed.

4.2 Scenario Analysis

The scenario analysis came from the last section of the survey where a reality-based story was depicted, and respondents were asked to express their opinions after reading the story. The empathy-based storytelling aimed at collecting unexpected information regarding the topic. Despite of the proven validity of the hypotheses, the precise correlation and effect were unclear, thus, the scenario analysis was expected to provide some trails. In addition, as mentioned in Chapter three, the survey distributed in China had a different section. Instead of providing a story, Chinese respondents were provided with the feedback and comments from European respondents and were required to react to their thoughts.

First of all, the functional value, especially the convenience that mobile payment brought to life in the story also raised recognition and agreement, albeit some of the negative, yet surprising findings. Some respondents addressed specific functions and features that they are fascinated about and would like to try such as smart parking.

From our perspective, the most important and interesting results came from the novel opinions regarding mobile payment as it broadens the research lens and provides new departures. Initially, when the story was designed, we pre-assumed that respondents would be fascinated by the story and would love to experience such type of day. However, the feedback indicated the completely opposite. *Table 12* lists the recurrent opinions which derived from various themes.

Table 12 Recurrent opinions derived from responses from westerners and Chinese.

Theme	Western Culture	Chinese Culture
General attitude	Despite of the recognition of convenience, people are more sceptical regarding its security.	Chinese people trust more in mobile payment as it is used in their daily lives.
Dependency on mobile devices	The ubiquity of mobile payment and its penetration to different aspects makes people more dependent on their mobile phone.	The dependence on mobile phones has already established, therefore, people should take advantage of using it.
Risks in emergency	Using solely mobile payment increases the risk level, situations such as mobile device running out of battery, hardware problems, and cyber security issue may put people in dilemma.	While Chinese people admit the risk of losing access to their mobile devices, solutions are designed for the anticipated risky situations.
Security	Mobile payment, being everywhere in our lives, exposes the privacy to the public without the consent of users.	By accessing to the internet, personal information is leaked.
Finance management	Mobile payment makes transaction effortless, thus, it is actually more difficult to manage one's finance.	Chinese respondents agree with the proposition, but additionally, they added advertisement and vanity to the "sin" list.
Quality of life	Replacing some specific and special elements of life is not appreciated, such as the paper form of menu.	Replacing the miscellaneous elements in life does not change anything.
Social value	The social value is significantly damaged by the increasing importance and dependency of mobile devices.	Social interaction emerges in a different form nowadays.

Generally, the westerners held a rather mixed perception of mobile payment, whereas Chinese trusted and used mobile payment more in their daily lives. From the general attitude, we were already able to identify different culture dimensions. While the majority of the existing knowledge promoting the benefits of mobile payment, there were still different voices coming from the western culture. Such result aligns to the individualism culture where people prioritise their opinions and express themselves regardless of the main stream. Chinese culture, on the other hand, is more collective, as the respondents expressed rather similar opinions. Supporting such culture dimension difference, the distinctive opinions concerning the dependency on mobile phones are also powerful evidences. According to the Chinese respondents, a somewhat pessimistic and adaptive attitude can be identified. One respondent specifically mentioned:

“Everyone is using Wechat or Alipay now. If I don’t use it, how can I or others make the transfer?”
(Chinese Respondent A, translated)

Indeed, there are many trends happening without the control of human being such as digitalisation and climate change. While others may spend time arguing the accountability and to reverse back to “simpler time”, Chinese think about solutions and approaches to adapt themselves to the situation. Mobile payment has already emerged as a major trend in China, regardless of willingness, one has to adapt to it in order to fit into the group. Therefore, we attribute such adaptive opinion to the collectivistic dimension of Chinese culture.

Secondly, the different perspectives in the risks in emergency and the information security were reflections of the uncertainty avoidance level. Specifically, many westerners expressed their concerns regarding the risks in replying solely on mobile payment. Situations such as running out of battery or losing access to mobile phones were the most mentioned ones. Consequently, the value perceptions of westerners were damaged. By contrast, instead of giving up mobile payment, Chinese people reacted to the issue and come up with solutions. In other words, Chinese culture is more result-oriented. A respondent directly addressed the theft situation:

“... at the moment I feel it very safe as well. Even if your phone got stolen, how would the other copy your fingerprint and unlock you phone?” (Chinese Respondent B, translated)

The solution, as surprise as it may seem, encourages business ideas as well. “Jiedian”, for instance, is a service provider of sharing power banks. Consumers can download the application and see the locations where Jiedian provides power banks to rent. When the consumers notice the insufficient battery, they can simply go to the closest location, rent a power bank and return to any other locations later. (Jiedian Brand Story, n.d.) Therefore, we believe that Chinese culture has relatively low uncertainty avoidance comparing to westerners.

As for the security concern, westerners were mostly worried about the private information leakage. The respondent comments read:

“Technology makes your life easier and everything quicker. Our lifestyle now is so busy that we don’t have much plenty of time to act like before, but all our profile, personal info, interests, dislikes... is on our technological devices and this info is so precious for all of companies that now they would pay anything for it making this also dangerous.” (Westerner Respondent C)

“I’m still worrying about its security. When something gets easier, it also gets easier to be scammed.” (Westerner Respondent D)

Clearly, the concerns derived from the high uncertainty avoidance of the culture. Respondents were generally more anxious about the emergency situations and felt more secured when the entire process of conduct is assured. Consequently, the value perceptions regarding mobile payment of westerners decreased. Comparing to how Chinese react to the insecurity and risks, westerners would rather give up the technology, and we attribute the distinctive behaviour to the different uncertainty avoidance level.

Moreover, responses have shown a similar culture dimension which is the long-term orientation as both groups were concerned with the difficulty in finance management. While we do not necessarily agree with the proposition, and we would argue as what Allums (2014, 157) says “mobile payment is to help consumers to spend smarter, not faster.”, both westerner and Chinese commented:

“This sort of thing makes me really paranoid of how much money I would be spending, I feel like I would accidentally spend a lot more than I thought without realizing.” (Westerner Respondent E)

“It does make me spend more and faster, because shopping websites all accept the Alipay, and you never notice how much you have spent until when you don’t have enough money in your account”
(Chinese Respondent F, translated)

Lastly, the opinions regarding quality of life and social value were leading to interesting discussions. The majority of western respondents specifically mentioned that paper menu was what they were reluctant to replace because it was a valuable component of dining experience in the restaurant, and the social interaction was diminishing because of the digitalisation, which Chinese respondents has paid less attention to. In fact, one respondent argued:

“Whether there is paper form of menu has nothing to do with the social interaction. And in the 21st century, social interaction is just different from the old time.” (Respondent G, translated)

Accordingly, we speculate that Chinese culture is more masculine comparing to western culture. Although there was no specific point mentioning that Chinese concentrates on the achievements and success of a person, the rationalisation process of mobile payment from Chinese respondents indirectly reflects this dimension of Chinese culture. While westerners appreciate the experiential delights of lives and claim that mobile payment damages the social value of human interaction, Chinese people argue that it is merely a different form of social interaction, thus, justifying the usage of mobile payment. Hence, we assume that Chinese appreciate functional value more than social value, albeit they recognise the negative effect exerted by mobile payment.

Besides the culture dimension, the novel opinion also elicited the consumer attachment to tangible artefacts. Consumer-product attachment has been recognised in the discipline of consumer behaviour studies. Schifferstein & Zwartkruis-Pelgrim (2008) propose that consumers attach different emotions to the tangible goods, which results in the different life spans of various products. Mugge, Schifferstein & Schoormans (2010) study the relationship between product attachment and consumer satisfaction, and at the same time identifying the determinants. They suggest that the memories and emotions are always attached to the products which could alter their perception of its utility, thus, affecting the satisfaction. However, the attachment has evolved, and the attached object is not necessarily tangible anymore. Consumers have attached their emotions and memories to intangible concepts such as brand (Japutra, Ekinici & Simkin, 2018). As a result, it is an interesting departure for future research to ponder, for example, whether mobile payment can be the new intangible object

that consumers attach their emotions to, or, what are the inviolable tangible goods that cannot be digitalised.

4.3 Hypotheses Summary

According to the presented analyses, we concluded *Table 13* to summarise the results. The proposed **H1**, **H2** and **H3** were not supported by the analyses, while evidences were discovered to support the remaining hypotheses.

Table 13 Hypothesis summary.

NO.	Description	Supported or not	Correlation with value perceptions (if applicable)
H1	The age of the consumers has an effect on their value perceptions of mobile payment.	N	-
H2	The gender of the consumers has an effect on their value perceptions of mobile payment.	N	-
H3	The length of prior experience of using mobile payment has an effect on consumers' value perceptions regarding mobile payment.	N	-
H4	The cultural background of consumers has an effect on their value perceptions of mobile payment.	Y	Economic, Functional, Emotional, Symbolic
H5	The type of usage intentions of mobile payment has an effect on the value perceptions of mobile payment.	Y	Economic, Emotional (not in C2C transfer), Symbolic
H6	The cultural background of consumers has an effect on the type of usage intentions of mobile payment.	Y	-
H7	The technology proficiency level of consumers has a positive effect on their value perceptions of mobile payment.	Y	Economic
H8	The mobile device proficiency level of consumers has a positive effect on	Y	Economic

	their value perceptions of mobile payment.		
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Regarding the negative result of **H1**, **H2** and **H3**, we believe the research and methodological limitations exerted impacts on the analysis, thus, led to the outcome. However, there were also novel points which were contradictory to the common sense. For example, functional value, a rather predominant aspect in mobile payment, was rarely found correlated with the proposed antecedents. From our perspective, the high perception of functional value in mobile payment may be one of the explanations; however, more precise and accurate research is needed to prove the assumption.

5 CONCLUSION

5.1 Summary

Mobile payment has become an increasingly popular topic in both business and technology disciplines. Indeed, as we presented in Chapter one, the mega-trend of digitalisation has evoked the development progress towards a cashless society. In the past decades, banking services and card payments may be the primary forces of stimulating the progress; however, with the advancement of mobile technology, we argued that mobile payment is taking over the position of leading to a cashless society. The existence of mobile payment and consumers reactions to such product is of great research interest as consumers in different regions face distinctive offerings and behave divergently from each other. In addition, the existing knowledge regarding mobile payment is relatively inadequate comparing to other long-standing payment methods. Therefore, we proposed the research question “What are the value propositions of mobile payment?” and a sub-question “Which antecedents influence consumer perceptions?” in order to understand how mobile payment is perceived from the consumer perspective.

In the secondly chapter, we officially started the research with establishing a solid theoretical framework. To begin with, we chose technology acceptance model proposed by Davis (1989) as it illustrates the process of how consumers accept and adopt a new technology. There are many existing literatures concerning TAM; however, because of the consumer perspective and mobile payment being the foci, not only did we set external variables to consumer-related factors, but also, we elaborated the two key elements – the perceived usefulness and the perceived ease of use – from consumer departures. In the consumer-related factors, we anticipated the influential forces coming from the age, gender, experience and culture background of consumers. As for the perceived fulness, we analysed different types of usage intentions from the design perspective of mobile payment as it, to the maximum extent, concludes all the possible intentions. In addition, the perceived ease of use is often approached from the technical design perspective of mobile payment application; however, in order to align to the consumer perspective, we asserted that the technology proficiency and mobile device proficiency level of consumers can directly affect their perceived ease of use, thus, indirectly influence the attitude towards accepting and deploying the new technology.

Further, after the justification, we probed deeper in the concept of “attitude” in TAM and suggested that the four dimensions of value would provide a more precise view on which aspects is influenced by what antecedents. In other words, we introduced a value lens. Collectively, all the components built up a solid, explicit and customised TAM, in which we presented the potential effect in between all the select antecedents and value perceptions.

Moreover, in Chapter three, we elaborated the method deployed to carry out the practical research and the justification for the method. The primary research method chosen was survey because of the main research task was to verify the validity of hypotheses, thus, an adequate amount of data was required. However, despite of quantitative research being the main method, we also integrated a qualitative query section in the survey in order to interpret the data in more depth and to collect unexpected information. Following the method justification, we depicted the detailed design of the survey. Precisely, the survey consists of four sections. The first section collected the demographical information, prior experience of using mobile payment as well as general opinion regarding the technology. In section two, scale-rating statements were provided to score the technology and mobile device proficiency levels of consumers. Consecutively, similar statements were deployed to gather the perception scores of consumers according to the four value dimensions. Eventually, the survey ends with a reality-based scenario which asked for the reaction of respondents.

Lastly, in Chapter four, we revealed the statistical analyses conducted in SPSS. Based on the result output, we did not discover any significant effects exerted by age, gender and prior experience of consumers on their value perceptions of mobile payment, thus, indicating the negative results of **H1**, **H2** and **H3**. However, the percentage distribution in the crosstabulation result outputs have signalled that there was an effect between: 1). the cultural background of consumers and their value perceptions of mobile payment; and 2). cultural background of consumers and their intentions of using mobile payment. Therefore, **H4**, **H6** are supported.

While the crosstabulation and the percentage distribution was not supporting **H5**, we discovered evidences in One-way ANOVA, which supported the proposed hypothesis. The One-way ANOVA conducted on each function (type of usage intentions) have indicated that whether the consumer use C2C transfer (e.g. *Sig. – Economic value: 0.001; Symbolic value: 0.000*), Online shopping (e.g. *Sig. – Economic value: 0.002; Emotional value: 0.035; Symbolic value: 0.001*) and Pay-at-store (e.g. *Sig. – Economic value: .000; Functional value: .000; Emotional value: .000; Symbolic value: .000;*) have

correlative relationship with the value dimension perceptions. On the other hand, there was no significant data found in whether using Online payment (C2B) has correlation with value perceptions of mobile payment.

The One-Way ANOVA conducted both with technology proficiency level and mobile device proficiency of consumers and their value perceptions regarding mobile payment produced several positive results, thus, supporting **H7** and **H8**. Specifically, correlations were found between technology proficiency and the perceived economic value (*sig.*: .004), total excl. general trust score (*sig.*: .007) and total incl. general trust score (*sig.*: .006). The results from the variable mobile device proficiency was almost identical (*Sig. – Economic value*: .001; *Total excl, general trust score*: .019; *Total incl. general trust score*: .010).

As for the detailed culture differences, the One-way ANOVA results proved that the culture background of consumers has correlation with all the selected variables (*Sig. – economic value*: .001; *others*: .000) except mobile technology proficiency, which was irrelevant finding to this research. The analysis also contained the Scheffe's method which illustrates the detailed different between different cultural groups.

The scenario section eventually yielded interesting propositions which broadened the view on mobile payment. Generally, while the western group pointed out many negative effects and risks brought by mobile payment, Chinese people were rather positive and appreciating the technology. For example, many westerners have complained about the social value which suffers from the increasing human dependency on mobile phones, and many had doubts regarding emergency situations where mobile devices are not accessible. On the contrary, Chinese respondents were somewhat "go with flow", meaning that despite they recognised the demerits of mobile payment, they also realised the inevitability of mobile payment being a primary payment method, thus, they have chosen to adapt to the trend and fully embrace its advantages. We argued that the reason of such distinctive opinions was rooted in the different cultures, and proposed differences in collectivism/individualism, femininity/masculinity, long-term/short-term orientation, and uncertainty avoidance dimensions of culture.

5.2 Discussion

5.2.1 Intrinsic Factor – Culture

Based on the findings, we concluded two predominant factors which had tremendous impacts on the consumer perceptions of mobile payment, and the intrinsic culture was one of them. Reviewing the entire paper, it takes no time to notice that culture was recurrently mentioned throughout the entire research. Indeed, the influence of culture is perennial and emergent in all aspects of individual behaviour, and value perception is no exception.

Terms such as ‘subjective norms’, ‘social influences’, and ‘normative beliefs’ have already appeared in the existing research on mobile payment and consumer acceptance (Abrahão, Moriguchi & Andrade, 2016; Liébana-Cabanillas et al., 2014; Oliveira et al., 2016; Schizer et al. 2010; Ting, Yacob, Liew & Lau, 2016; Yang, Lu, Gupta, Cao & Zhang, 2012). In fact, Fan, Shao, Li & Huang (2018) conduct a comparative research between China and the USA on the subject of users’ attitudes towards mobile payment use. They discovered that not only can cultural dimensions such as uncertainty avoidance exert significant impact on the attitude, but also can the national regulations such as technology security rules and policy affect the result.

In our findings, culture also plays an active role. According to all the statistical analysis data, we have found correlations between culture and almost every variable in question. For example, we discovered that Chinese respondents were more likely to perceive greater economic and functional values than other cultural groups, thus, leading to a higher satisfaction rate regarding mobile payment. Moreover, in the qualitative analysis, the distinctive opinions regarding mobile payment coming from Chinese and western respondents were also powerful evidences. Therefore, we claim that culture, as a consumer-intrinsic factor, has remarkable influences on the value perceptions of mobile payment.

The existing acceptance behaviours of mobile payment across different countries also agree with us. Because of the advancement and omnipresence of mobile payment in China, a somewhat cashless lifestyle has already been established in China. Therefore, a “reverse thinking” was fostered. In other countries such as Germany where cash still remains as the primary payment method, mobile payment and the derived industries are considered as novel and technology-forward innovations, whereas in China, the mobile payment omnipresence reduces the uniqueness of using mobile payment, thus,

leading to the decline of symbolic value. Instead of recognising the “coolness” of using mobile payment, labels such as ‘conventional’ and ‘old-school’ are given to the minority who do not use it, and such reverse thinking is gradually integrating and anchoring in Chinese culture. (Murayama, 2019; Netimperative, 2018)

The cultural influence also led to a series of correlated concerns for service providers, and at the same time, numerous future research paths. For instance, “when facing different markets, should service providers design distinctive value propositions fit into the cultural context”; “Is there any space left for the penetration of more mobile payment systems in China” and “To what extent can mobile payment develop in each market” are all crucial questions to consider.

5.2.2 External Factor – Design and Infrastructure

The other predominant factor, contradictory to our consumer perspective, is the design of mobile payment application. Despite of data gathered from consumers, when we explored the reason behind the results, it led us to consider the different mobile payments available in the market. Although there are four different categories of mobile payment, applications that cater solely one category is less competitive than others.

The example of Wechat Wallet is a strong evidence. *Figure 12* below is the user interface of Wechat Wallet. It contains financial management functions such as quick pay (Scan the QR code, and pay at store), transfer (C2C transfer), utilities (C2B transfer), card repay (pay for the credit card) and also other derived functions such as booking taxi, movie tickets, railway or flight tickets. However, as surprising as it may seem, Wechat Wallet is not a professional mobile payment application, but an extended service provided by the social media application Wechat. Such application is similar to Whatsapp, through which you can chat with your friends. With the integration of wallet function, not only are users able to carry out all the financial activities in one single application, but also are all activities conducted through the most basic and ubiquitous application in China.

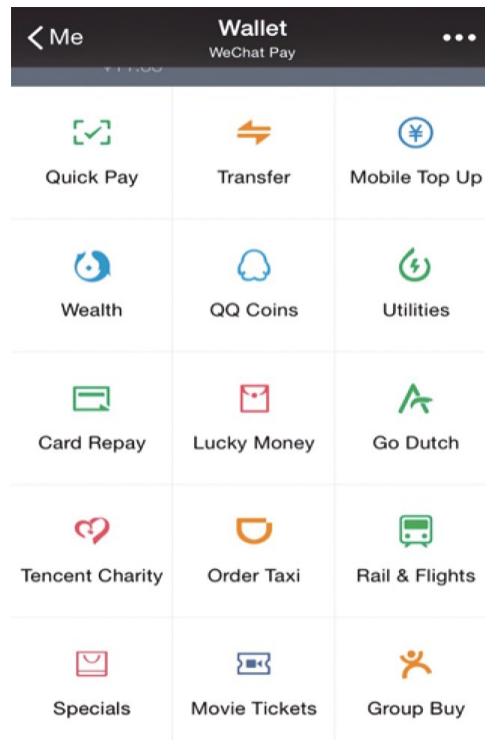


Figure 12 Wechat Wallet interface (Wang, n.d.).

The competitive advantages of Wechat Wallet are emergent. First of all, as Wechat is the most used social communication application, its usage coverage is remarkably high, thus, consumers do not need to download a separate application. Secondly, people to whom consumers may have the need to transfer money are often in the contact list, hence, the efficiency of C2C transfer is escalated. Thirdly, Wechat, or Tencent (the mother conglomerate), is building up cooperative relationship with various industries. The utility pay, credit card payback and leisure booking (hotel, flights and so on) functions are all prime examples. Lastly, the company itself is continuously learning and penetrating into new industries with the mobile payment technology such as insurance and food delivery. Through the internal and external efforts, can the company eventually build up a smart cluster which connects every aspect of human life, thus, achieving the idea of cashless and smart society.

The Wechat instance may be a progressive and advanced one as, comparing to other mobile payment applications, Wechat Wallet is capable of carrying out all functions of mobile payment and simultaneously expanding to other industries. However, the idea behind it reveals that the achievement of cashless society is not feasible with solely the effort of mobile payment service providers. Simple as how bank card works, there should be the payer with the card and machine which reads the card. In mobile payment in general, the support of all the other industries such as

retail is also of vital importance. Therefore, while the service provider betters the mobile payment applications, the awareness of benefits in mobile payment and cashless society should be raised in order to establish a smart cluster.

5.3 Contributions

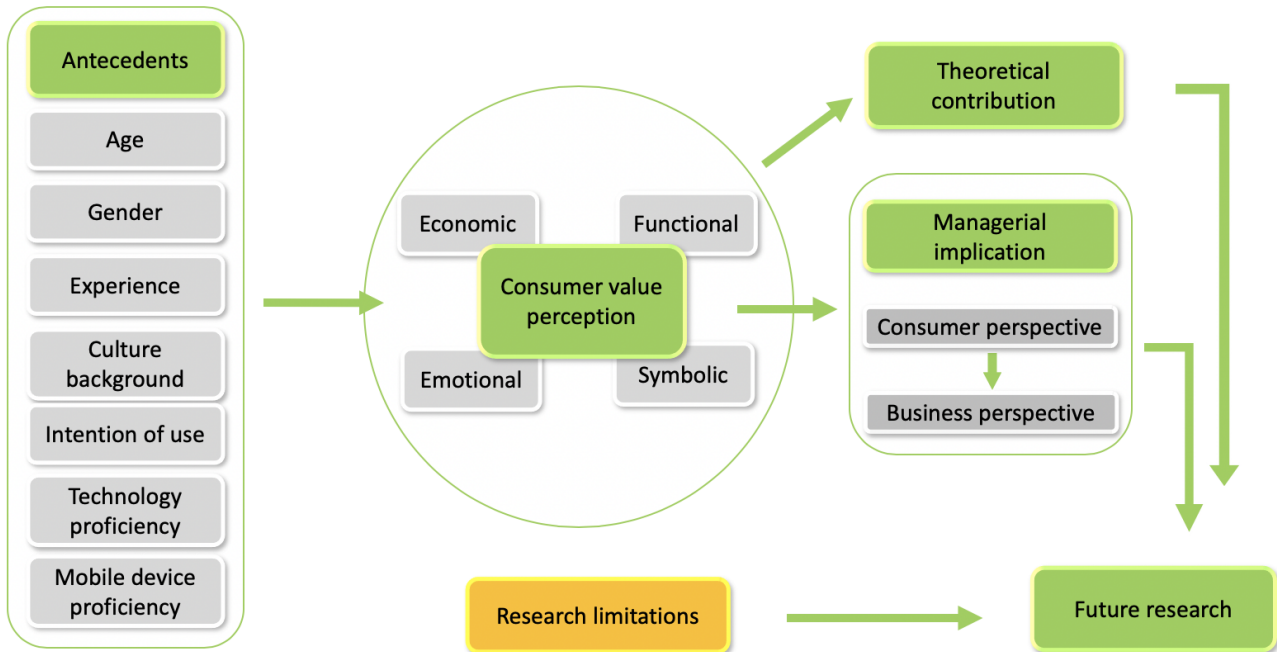


Figure 13 Research Framework.

Figure 13 illustrates the entire research framework, from which we can understand how the findings of the research can contribute to both academia as well as the empirical practice. The contributions and the research limitations could be all taken into consideration when designing future research path.

5.3.1 Theoretical Contribution

From academic perspective, the verified hypotheses contribute to the existing knowledge regarding cashless society as they provide additional knowledge of consumers' perceptions of the newly-emerged mobile payment technology in addition to card payment and banking services. Comparing with the existing literature, different results were found such as the null correlation between the demographics and consumer perception regarding mobile payment.

Secondly, this thesis further developed the perennial TAM, as not only did we expand the perceived usefulness and perceived ease of use from a consumer perspective, but also, we probed deeper in the notion of attitude by integrating the four dimensions of value. Such development remarkably opens up the research paths, inviting the future research to review the existing literature to the extent that illustrate which specific value dimension(s) is correlated.

Finally, aligning to the proposed research questions and aim, we are confident that the image of how consumers perceive mobile payment and the influential antecedents were clearly depicted and identified. We believe that mobile payment is perceived positively in China, whereas “westerners” recognise also demerits and risks, which further explain the reversed advancement in developing country and developed country (China and Germany, for instance).

5.3.2 Managerial Implication

Because of the consumer perspective deployed in this thesis, the managerial implication is built through the reflection of consumer perceptions to the organisational implication. From consumer perspective, different voices were expressed through the research. Although mobile payment can bring remarkable benefits to both individual level and societal level such as the efficient financial management and smart cluster development, there are risks and harms accompanying them. The damaged social value, life quality and the inevitable dependence on mobile phones are issues which cannot be overlooked. Therefore, by recognising mobile payment as a double-edged sword can we build a smarter cashless society.

As for the mobile payment providers, the outcome of the research indeed offers novel ideas. Initially, according to the results, we reckon that in designing mobile payment and segmenting customer groups, demographics should not be the primary criteria to consider; instead, the cultural background is the most crucial one as its effect on value perception was strongly supported by the analysis. Such finding implies that mobile payment providers should consider distinctive value proposition according to the unique cultural background of the targeted market.

Secondly, coming from the recurrent opinions of consumers, we assert that the capability of catering various mobile payment functions including C2C, C2B, C2M transfers and replacement of cash, is

regarded as the expected value of mobile payment. As a result, for mobile payment providers who cater one or two features, the functional development is required. On the other hand, according to our findings, the functional value is highly perceived among consumers, thus, we reckon that the development space for further functions is saturated. Therefore, mobile payment providers who already carry out all functions should focus on other value dimensions such as emotional and symbolic values. May it be an online banking application, or a food deliver platform, what consumers look for is the “smart and quality” lifestyle. By smart, we refer to both what Allums (2014) mentioned in his book, “mobile payment is to help consumers spend smarter, not faster”, and the smarter cluster development based on the mobile payment technology such as the smart parking and the sharing power bank examples is appreciated.

Finally, despite of the incredible convenience brought by mobile payment, there are objects that consumers are reluctant to sacrifice, in our scenario, it was the paper form of menu. Indeed, consumers are known to attach their feelings and emotions to tangible objects, which is commonly recognised in the consumer-product relationship (Schifferstein & Zwartkruis-Pelgrim, 2008). Therefore, we suggest that the progress of moving towards a cashless and digital society should pay attention to the details in life which are attached with affections. While developing a smarter and more efficient society, consumers do not accept an emotionless one.

5.4 Research Limitation

Despite of the valuable outcomes, we do recognise the limitations of the research from both methodology as well as theory. As mentioned in Chapter three, there were flaws in the selected research method. In addition to the common method bias problem referring to the error resulted from the deploying the same method to measure various construct, although we did not establish a filter for distributing the survey, the data mainly came from the age group of 19 to 25, and the occupation was mostly student. The influence was already emergent when we conducted analysis in order to prove **H1**. Moreover, such sample also posed a threat to generalise the outcome to a larger scale, as the result may only illustrate the dynamics and correlation amongst young students.

Secondly, the presented analysis result outputs did not illustrate the dynamics in the correlation, albeit their supports to the proposed hypotheses. Both crosstabulations and One-Way ANOVA merely prove the existence of the effect; however, whether the increase of one variable would lead to the

decrease or increase of the another is still unclear. We can assume the dynamics of correlation for variables such as technology proficiency and mobile device proficiency based on our common sense, but the mixed perception derived from using each individual function of mobile payment made it difficult to give a convincing conclusion, yet interesting to find out.

Thirdly, technical mistakes also exist in the design of the survey. As mentioned in Chapter four, **H3** was not supported by the data analysis; however, it may attribute to the small quantity of valid data because of the poor design of the question. As the time dimension was not specified in the survey, answers such as “long”, “very long” and “some months” could not be used in the data analysis. Further, although literature and existing knowledges were used to construct the statements in the survey, we suspect the extent of precision in them. As emotional and symbolic dimensions are highly subjective, it was impossible to draft statements to cover all the aspects. In addition, question “Does the story change your perception of mobile payment? If yes, what are the major differences?” was also regarded as invalid because the specific changes, or the attitude which respondents remains were not asked.

Apart from the methodological limitations, we also identified the theoretical limitation. In this research paper, the fundamental theoretical framework used was solely TAM; however, there are many other models which can be used in the same context. For example, Holden & Karsh (2010) list in their paper Unified Theory of Acceptance and Use of Technology (UTAUT) and Theory of Planned Behaviour (TPB), which are both “advanced TAMs” that can be deployed to understand the consumer acceptance intention and behaviour of mobile payment. The former one considers the direct influence of performance expectancy, effort expectancy, social influence and facilitating conditions on the acceptance intention and behaviour, whereas the later one believes various beliefs such as normative and behavioural beliefs are indirectly affect the behavioural intention, thus affecting the acceptance behaviour.

Lastly, and most critically, we admit the intervention of personal feelings in the research. The draft of the scenario in the survey was a prime example, as the story itself was somewhat indirectly persuading consumers to accept mobile payment by depicting the benefit of it. Despite of the unexpected and novel findings from the scenario, the involvement of personal feeling should be eliminated as it does not comply with the ethics of academic writing. Particularly in the research that deploys a consumer perspective, the tone of the paper should remain objective because consumer

perception is a subjective topic, implying that there is no definite right and wrong opinions, thus, no proposition should be forced.

5.5 Suggestions for Future Research

Mobile payment, as a newly-emerged innovation, still lacks comprehension, therefore, any additional research would contribute to the existing knowledge. Departing from this paper, we suggest that the four value dimensions in the context of using mobile payment deserve more attention. The existing literature on mobile payment and consumer acceptance primarily focus on the external variables, the perceived usefulness and the perceived ease of use in TAM; however, which type of value mobile payment touches is unclear. While the majority would argue that functional value is the essence in the value proposition of mobile payment, we discovered correlations between antecedents and emotional as well as symbolic values. Therefore, more empirical data and analyses are needed.

The existing literature offers many various theoretical frameworks to conduct research on mobile payment. While this particular paper adopts a consumer perspective, it is undoubtedly not limited to such viewpoint. Not only can the future research develop based upon other frameworks such as UTAUT, but also can they deploy novel perspectives including political and administrative science. For instance, the supporting regulation concerning cashless society in Sweden would be an interesting case to analyse.

As mentioned previously, the research and methodological limitations might have influenced the result output which potentially led to the null results of the hypotheses. Contradictory to our results, Liébana-Cabanillas et al. (2014) has discovered influence exerted by gender. Therefore, more accurate research is encouraged to support either of the proposition. In addition, the analyses conducted in this research is rather simple. Future research could probe deeper in the influential relationship by examining moderating or mediating effect of the selected antecedents.

Furthermore, the consumer affection attachment to tangible objects discovered from the qualitative analysis also provides delightful research paths. Even within the same culture, there are still users who would accept the digital form of menu, despite the majority is reluctant. Therefore, identifying the category of consumer-attached objects, or the threshold between the balance functional and emotional values are intriguing.

Eventually, In the conclusion, we also commented that what consumers desire is a “smart and quality lifestyle”. Based on the findings of the research, the validity of the assertion requires more supports and the specific actions that could be taken to build towards the lifestyle are unexplored. As a result, various research perspectives and disciplines are appreciated.

5.6 Final Conclusion

To conclude, we agree with the opinion that cash is no longer the king and to quote Anders Sörman-
Nilsson, the author and director of Thinq (BBC Storyworks, n.d.),

“Cash will continue to fade into oblivion”.

In the torrent of digitalisation, let us embrace and build a smarter empire through the advancement of innovation and technology.

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Appendice:

Appendix 1. Survey: Consumer Perception of Mobile Payment

Consumer perceptions of mobile payment

The survey aims at studying the perceived value of mobile payment, one important aspect of a cashless society. Mobile payments refer to any mobile technology (apps, near field communications, etc.) which enables users to manage their financial activities on their mobile device. As mobile phones evolve and became inseparable from our daily lives, mobile payment has emerged as a new and innovative payment trend. Therefore, we are really interested in YOUR subjective views on mobile payment, and you don't necessarily need to have any experience to answer the survey.

The survey is anonymous and will take approximately 10 minutes to answer. It consists of rating questions, scenario questions as well as open questions so that qualitative data can be also collected.

In addition, if you want extra points for the course KATMAA13 Service Marketing, please remember to fill in your name at the end of the survey. This information will not be used in the analysis, but only for awarding course points.

1. Demographic questions

Age *

Gender *

Female

Male

Prefer not to say

Nationality *

2. Prior experience

Have you heard or learned about mobile payment before today? *

Yes

No

What is your general perception of mobile payment applications? *

convenient

versatile

time-saving

cool and fun

easy to use

cheap to use

safe to use

insecure

it might leak my private information

Other:

Have you ever used mobile payment application(s)? *

Yes

No

If yes, for how long have you been using it (them)?

...and what do you use it for the most?

transfer to other people

online payment (phone bills, rent ...)

online shopping (including services such as food delivery)

pay at stores (instead of using cash)

Other:

What other functions do you use it for?

transfer to other people

online payment (phone bills, rent ...)

online shopping (including services such as food delivery)

pay at stores (instead of using cash)

Other:

If not, what is the main reason for not using it?

Page 2:

Consumer perceptions of mobile payment

Technology Proficiency

I feel confident that I can...

...subscribe to a discussion list to receive e-mails and newsletters. *

not at all confident

very confident

1 2 3 4 5

...create a distribution list to send e-mail to several people at once. *

not at all confident

very confident

1 2 3 4 5

...use an Internet search engine (e.g., Google) to find Web pages related to my subject matter interests. *

not at all confident

very confident

1 2 3 4 5

...keep track of Web sites I have visited so that I can return to them later. (An example is using bookmarks.) *

not at all confident

very confident

1 2 3 4 5

...create my own web page. *

not at all confident

very confident

1 2 3 4 5

use a spreadsheet to create a bar graph of the proportions of the different colours of M&M candies in a bag. *

not at all confident very confident

1 2 3 4 5

...create a document with graphics (e.g. blog or newsletter). *

not at all confident very confident

1 2 3 4 5

...create a database of information about important authors in a subject-matter field. *

not at all confident 1 2 3 4 5 very confident

Mobile Device Proficiency

Using mobile device, I can...

...download and install apps on my mobile device. *

not at all confident 1 2 3 4 5 very confident

...keep track of the costs of mobile app use *

not at all confident 1 2 3 4 5 very confident

...adapt quickly to the new control panel and user interface in different apps *
not at all confident 1 2 3 4 5 very confident

...quickly navigate through the phone and find the information (contact, app) that I am looking for.*

not at all confident 1 2 3 4 5 very confident

...adjust the settings according to my needs. *

not at all confident very confident

1 2 3 4 5

...enter events and appointments to my calendar *

not at all confident 1 2 3 4 5 very confident

...set alarms for upcoming events or appointments *

not at all confident 1 2 3 4 5 very confident

...connect to others for my professional development. *

not at all confident 1 2 3 4 5 very confident

...integrate mobile technologies into my daily tasks (studying, working, shopping, financial arrangement, etc.). *

not at all confident very confident

Consumer perceptions of mobile payment

What are your thoughts when you use (or hear) about mobile payment?

completely disagree 1 2 3 4 5 6 totally agree

completely disagree 1 2 3 4 5 6 totally agree

completely disagree totally agree

1 2 3 4 5 6

completely disagree 1 2 3 4 5 6 totally agree

completely disagree 1 2 3 4 5 6 totally agree

completely disagree 1 2 3 4 5 6 totally agree

completely disagree 1 2 3 4 5 6 totally agree

completely disagree 1 2 3 4 5 6 totally agree

completely disagree 1 2 3 4 5 6 totally agree

completely disagree totally agree

1 2 3 4 5 6

Using mobile payment makes me feel "cool" and "fashionable". *

completely disagree totally agree
 1 2 3 4 5 6

Using mobile payment makes me feel like a master of technology. *
 completely disagree totally agree
 1 2 3 4 5 6

Using mobile payment makes me feel like I am keeping up with the new trends. *
 completely disagree totally agree
 1 2 3 4 5 6

Page 4:

Consumer perceptions of mobile payment

A day with mobile payment...

Imagine yourself waking up on a sunny day, you are checking Facebook, news and emails on your phone while having breakfast. Then you see that it is the due date to pay for the electricity today. Instead of opening your laptop, you open your mobile bank where there is a utility payment icon built in, one click and one confirm, and the job is done.

After a couple of hours, it's time to drive to the centre to have lunch with your friend. When you arrive at the parking place, there is no need to take a ticket and remember where you parked your car. Instead, you can monitor the parking place on your phone, and when you drive away, the fee is deduced automatically from your mobile wallet.

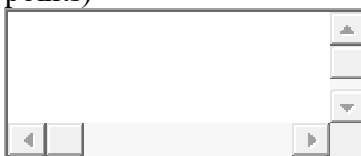
You next walk inside the restaurant and go to a table. Instead of checking a paper menu, you scan the QR code on your table, you get an electronic menu with pictures, prices and descriptions. At the end of a pleasant lunch, you scan the code again and pay the meal via your phone.

Later in the afternoon, your friend was about to say goodbye after a wonderful time together. Suddenly, (s)he realised that (s)he did not pay you for the lunch. (S)he opened the app that you always chat with and transfers the money via the app. In less than 3 seconds, you received the payment and wished each other a nice evening.

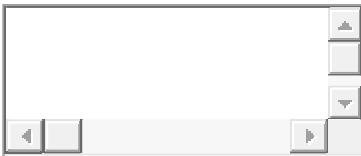
Now you realise your phone battery is low, and you need to call the number to get your garage door opened. You open a power bank searcher on your phone, and rent a power bank at the cost of 30 cents/hour from the closest location. And after you get home, you return it to another location just near your place. After a long day, you open up a few drinks and have a relaxing evening...

(Everything in this scenario is actually real and can be achieved with one application)

What are your thoughts after reading the story? (You can write the thoughts or just simply list some points) *



Does the story change your perception of mobile payment? If yes, what are the major differences? *



Open comments



Name (only for KATMAA13 Service Marketing)

Appendix 2. Original Result Output of Scheffe's Method (factor: nationality variables: tech/mobile proficiency, value dimensions, total values)

Multiple Comparisons

Scheffe

Dependent Variable	(I) Nationality	(J) Nationality	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Technology Proficiency mean	Finland	China	-.56778*	.14741	.003	-.9848	-.1508
		Europe	-.07605	.12457	.946	-.4284	.2763
		Others	-.24226	.21340	.732	-.8459	.3614
	China	Finland	.56778*	.14741	.003	.1508	.9848
		Europe	.49173*	.14133	.009	.0919	.8915
		Others	.32551	.22360	.550	-.3070	.9580
	Europe	Finland	.07605	.12457	.946	-.2763	.4284
		China	-.49173*	.14133	.009	-.8915	-.0919
		Others	-.16622	.20924	.889	-.7581	.4257
	Others	Finland	.24226	.21340	.732	-.3614	.8459
		China	-.32551	.22360	.550	-.9580	.3070
		Europe	.16622	.20924	.889	-.4257	.7581
Mobile Proficiency mean	Finland	China	-.27179	.14295	.310	-.6762	.1326
		Europe	-.05297	.12080	.979	-.3947	.2887
		Others	.06447	.20694	.992	-.5209	.6499

	China	Finland	.27179	.14295	.310	-.1326	.6762
		Europe	.21882	.13705	.469	-.1689	.6065
		Others	.33627	.21683	.495	-.2771	.9496
	Europe	Finland	.05297	.12080	.979	-.2887	.3947
		China	-.21882	.13705	.469	-.6065	.1689
		Others	.11745	.20291	.953	-.4566	.6914
	Others	Finland	-.06447	.20694	.992	-.6499	.5209
		China	-.33627	.21683	.495	-.9496	.2771
		Europe	-.11745	.20291	.953	-.6914	.4566
EcoVmean	Finland	China	-2.27488*	.26203	.000	-3.0161	-1.5337
		Europe	-.12261	.22141	.959	-.7490	.5037
		Others	.10928	.37931	.994	-.9637	1.1823
	China	Finland	2.27488*	.26203	.000	1.5337	3.0161
		Europe	2.15227*	.25121	.000	1.4416	2.8629
		Others	2.38416*	.39744	.000	1.2599	3.5085
	Europe	Finland	.12261	.22141	.959	-.5037	.7490
		China	-2.15227*	.25121	.000	-2.8629	-1.4416
		Others	.23190	.37192	.942	-.8202	1.2840
	Others	Finland	-.10928	.37931	.994	-1.1823	.9637
		China	-2.38416*	.39744	.000	-3.5085	-1.2599
		Europe	-.23190	.37192	.942	-1.2840	.8202
FuncVmean	Finland	China	-1.17124*	.21599	.000	-1.7823	-.5602
		Europe	-.01938	.18252	1.000	-.5357	.4969
		Others	-.73356	.31268	.143	-1.6181	.1510
	China	Finland	1.17124*	.21599	.000	.5602	1.7823
		Europe	1.15186*	.20708	.000	.5661	1.7377
		Others	.43768	.32762	.619	-.4891	1.3645
	Europe	Finland	.01938	.18252	1.000	-.4969	.5357
		China	-1.15186*	.20708	.000	-1.7377	-.5661
		Others	-.71418	.30659	.148	-1.5815	.1531
	Others	Finland	.73356	.31268	.143	-.1510	1.6181
		China	-.43768	.32762	.619	-1.3645	.4891
		Europe	.71418	.30659	.148	-.1531	1.5815
EmoVmean	Finland	China	-1.39602*	.26400	.000	-2.1428	-.6492
		Europe	.32696	.22308	.544	-.3041	.9580
		Others	-.17021	.38217	.978	-1.2513	.9109
	China	Finland	1.39602*	.26400	.000	.6492	2.1428
		Europe	1.72298*	.25311	.000	1.0070	2.4390
		Others	1.22581*	.40044	.028	.0930	2.3586
	Europe	Finland	-.32696	.22308	.544	-.9580	.3041
		China	-1.72298*	.25311	.000	-2.4390	-1.0070

SybVmean	Others	Others	-.49718	.37473	.625	-1.5572	.5629
		Finland	.17021	.38217	.978	-.9109	1.2513
		China	-1.22581*	.40044	.028	-2.3586	-.0930
		Europe	.49718	.37473	.625	-.5629	1.5572
	Finland	China	-1.62114*	.30348	.000	-2.4796	-.7626
		Europe	.27443	.25644	.766	-.4510	.9999
		Others	-.26435	.43932	.948	-1.5071	.9784
	China	Finland	1.62114*	.30348	.000	.7626	2.4796
		Europe	1.89557*	.29096	.000	1.0725	2.7186
		Others	1.35679*	.46032	.037	.0546	2.6590
	Europe	Finland	-.27443	.25644	.766	-.9999	.4510
		China	-1.89557*	.29096	.000	-2.7186	-1.0725
		Others	-.53878	.43077	.668	-1.7573	.6798
	Others	Finland	.26435	.43932	.948	-.9784	1.5071
		China	-1.35679*	.46032	.037	-2.6590	-.0546
		Europe	.53878	.43077	.668	-.6798	1.7573
total value without general trust	Finland	China	-1.61582*	.19360	.000	-2.1635	-1.0681
		Europe	.11485	.16360	.920	-.3479	.5776
		Others	-.26471	.28026	.827	-1.0575	.5281
	China	Finland	1.61582*	.19360	.000	1.0681	2.1635
		Europe	1.73067*	.18561	.000	1.2056	2.2557
		Others	1.35111*	.29366	.000	.5204	2.1818
	Europe	Finland	-.11485	.16360	.920	-.5776	.3479
		China	-1.73067*	.18561	.000	-2.2557	-1.2056
		Others	-.37956	.27480	.593	-1.1569	.3978
	Others	Finland	.26471	.28026	.827	-.5281	1.0575
		China	-1.35111*	.29366	.000	-2.1818	-.5204
		Europe	.37956	.27480	.593	-.3978	1.1569
total value with general trust	Finland	China	-1.45148*	.18436	.000	-1.9730	-.9299
		Europe	.24514	.15579	.482	-.1956	.6858
		Others	-.16883	.26688	.940	-.9238	.5861
	China	Finland	1.45148*	.18436	.000	.9299	1.9730
		Europe	1.69662*	.17675	.000	1.1966	2.1966
		Others	1.28265*	.27964	.000	.4916	2.0737
	Europe	Finland	-.24514	.15579	.482	-.6858	.1956
		China	-1.69662*	.17675	.000	-2.1966	-1.1966
		Others	-.41397	.26169	.477	-1.1542	.3263
	Others	Finland	.16883	.26688	.940	-.5861	.9238
		China	-1.28265*	.27964	.000	-2.0737	-.4916
		Europe	.41397	.26169	.477	-.3263	1.1542

*. The mean difference is significant at the 0.05 level.

